Factor Analysis of Entrepreneurship Ecosystem in Myanmar

ဒီသုတေသနမှာ **မြန်မာနိုင်ငံရဲ့ စီးပွားရေးလုပ်ငန်းရှင်တွေ အောင်မြင်စေတဲ့ အကြောင်းရင်းများ (Entrepreneurship Ecosystem)** ကို Factor Analysis လုပ်ပြီး လေ့လာထားတာဖြစ်ပါတယ်။

သုတေသန နည်းလမ်း (၃) မျိုး ကို အဓိက အသုံးပြုထားပါတယ်

၁. **Descriptive Statistics** - စာရင်းဇယားတွေကို ရိုးရှင်းစွာ ဖော်ပြခြင်း (ဥပမာ - ရာခိုင်နှုန်း၊ ပျမ်းမျှ)

၂. **Reliability Analysis** - မေးခွန်းလွှာရဲ့ ယုံကြည်ရမှုကို စစ်ဆေးခြင်း

၃. **Factor Analysis** - အဓိက အကြောင်းရင်းများကို ရှာဖွေခြင်း

၁. Survey Design (စစ်တမ်း ဒီဇိုင်း)

က) မေးခွန်းလွှာ ပြုစုခြင်း

- မေးခွန်းပုစ္ဆာ (၆၄) ခု ပါဝင်ပါတယ်။
- **ပထမပိုင်း** - ကိုယ်ရေးကိုယ်တာ အချက်အလက်များ (ကျား/မ, အသက်, ပညာအရည်အချင်း, လုပ်ငန်းအမျိုးအစား)
- **ဒုတိယပိုင်း** - စီးပွားရေးလုပ်ငန်းရှင်တစ်ယောက် အောင်မြင်ဖို့ အရေးပါတဲ့ အချက် (၆) ချက်ကို ၅-ဆင့် စကေးနဲ့ တိုင်းတာထားတယ်။
    - ငွေကြေးရရှိမှု (Access to Finance)
    - ဈေးကွက်ရရှိမှု (Access to Market)
    - နည်းပညာရရှိမှု (Access to Technology)
    - လူသားအရင်းအမြစ် (Human Capital)
    - စီးပွားရေးယဉ်ကျေးမှု (Entrepreneurship Culture)
    - အစိုးရထောက်ပံ့မှု (Government Support)

ခ) နမူနာ ရွေးချယ်ခြင်း

- **လူဦးရေ** - MYEA ရဲ့အသင်းဝင် ၇၇၉ ယောက် (၂၀၁၉)
- **နမူနာ အရွယ်အစား** - ၂၆၀ ယောက် (Cochran's formula အရ တွက်ချက်)
- **နမူနာ ရွေးချယ်နည်း** - ရိုးရိုး random sampling (ကျပန်း ရွေးချယ်)

ဂ) ဒေတာ စုဆောင်းခြင်း

- အွန်လိုင်း Survey ကတစ်ဆင့် စုဆောင်းခဲ့ပါတယ်။
- ဖုန်းနဲ့လည်း ပြန်လည် ဆက်သွယ် မေးမြန်းခဲ့ပါတယ်။

၂. Reliability Analysis (ယုံကြည်ရမှု စစ်ဆေးခြင်း)

ဒီအပိုင်းမှာ မေးခွန်းလွှာထဲက မေးခွန်းတွေဟာ တစ်ခုနဲ့တစ်ခု ဆက်စပ်မှုရှိရဲ့လား၊ တည်ငြိမ်ရဲ့လားဆိုတာ စစ်ဆေးတာဖြစ်ပါတယ်။

- **Cronbach's Alpha** ဆိုတဲ့ စစ်ဆေးနည်းကို သုံးထားပါတယ်။
- ရလဒ်က **၀.၉၀၃** ရခဲ့ပါတယ်။
- **အဓိပ္ပာယ်** - ၀.၇ ကျော်ရင် ယုံကြည်ရမှု မြင့်မားတယ်လို့ သတ်မှတ်ပါတယ်။ ဒီတော့ ဒီစစ်တမ်းရဲ့ မေးခွန်းလွှာဟာ ယုံကြည်ရမှုရှိတယ်လို့ ဆိုနိုင်ပါတယ်။

၃. Factor Analysis (အဓိက အကြောင်းရင်းများ ရှာဖွေခြင်း)

ဒီအပိုင်းကတော့ စာတမ်းရဲ့အဓိက ကျတဲ့အပိုင်းဖြစ်ပါတယ်။ မေးခွန်း (၄၈) ခုစလုံးကို ခြုံငုံပြီး ဘယ်အချက်တွေက အဓိက သက်ရောက်မှုရှိလဲဆိုတာ ရှာဖွေတာဖြစ်ပါတယ်။

က) KMO and Bartlett's Test

- ဒေတာတွေက Factor Analysis လုပ်ဖို့ သင့်တော်ရဲ့လားဆိုတာ စစ်ဆေးတာဖြစ်ပါတယ်။
- KMO ရလဒ်က **၀.၈၅၅** ရခဲ့ပါတယ်။ ၀.၆ ကျော်ရင် သင့်တော်တယ်လို့ သတ်မှတ်ပါတယ်။
- ဒီတော့ ဒီဒေတာတွေက Factor Analysis လုပ်ဖို့ ကောင်းမွန်တယ်လို့ ဆုံးဖြတ်လို့ရပါတယ်။

ခ) Velicer's MAP Test

- Factor Analysis မှာ အဓိက အကြောင်းရင်း (Factor) ဘယ်နှစ်ခု ထုတ်ယူရမလဲဆိုတာ ဆုံးဖြတ်ဖို့အတွက် သုံးတဲ့ နည်းလမ်းဖြစ်ပါတယ်။
- ရလဒ်အရ **Factor (၄) ခု** ထုတ်ယူသင့်တယ်လို့ ညွှန်းဆိုထားပါတယ်။

ဂ) Factor (၄) ခု ရလဒ်

MAP Test အရ Factor (၄) ခုကို ထုတ်ယူပြီး နောက်ဆုံးမှာ အောက်ပါ Factor (၄) ခု ရရှိခဲ့ပါတယ် -

၁. **Support & Network Pillar** - အစိုးရထောက်ပံ့မှု၊ ကွန်ရက်၊ အသင်းအဖွဲ့များ

၂. **Human and Culture Pillar** - လူသားအရင်းအမြစ်၊ စီးပွားရေးယဉ်ကျေးမှု

၃. **Market & Technology Pillar** - ဈေးကွက်နဲ့ နည်းပညာ

၄. **Financial Pillar** - ငွေကြေးရရှိမှု

အနှစ်ချုပ်

ဒီသုတေသနမှာ **MYEA အသင်းဝင် ၂၆၀** ဆီက ကောက်ယူထားတဲ့ ဒေတာတွေကို **Factor Analysis** လုပ်ပြီး မြန်မာနိုင်ငံရဲ့စီးပွားရေးလုပ်ငန်းရှင်တွေ အောင်မြင်ဖို့အတွက် အဓိက အကြောင်းရင်း (၄) ချက်ကို ရှာဖွေတွေ့ရှိခဲ့တာဖြစ်ပါတယ်။

ဒီ Factor (၄) ခုဟာ တစ်ခုနဲ့တစ်ခု ဆက်စပ်နေပြီး တစ်ခုခု အားနည်းရင် အခြားတစ်ခုကိုပါ သက်ရောက်မှုရှိနိုင်တယ်လို့လည်း ကောက်ချက်ချထားပါတယ်။

Factor Analysis (အကြောင်းရင်း ခွဲခြမ်းစိတ်ဖြာမှု) အကြောင်းကို အခြေခံကနေစပြီး ရှင်းပြပေးပါမယ်။ ဒီစာတမ်းမှာ သုံးထားတဲ့ နည်းလမ်းကို ဥပမာနဲ့တကွ နားလည်အောင် ကြိုးစားရှင်းပြပေးသွားပါမယ်။

Factor Analysis ဆိုတာ ဘာလဲ ?

ရိုးရိုးရှင်းရှင်းပြောရရင် - ကွန်ယက်ထဲက ကြိုးတွေအားလုံးကို ဆွဲကြည့်လိုက်ရင် ဘယ်ကြိုးက အဓိကဆိုတာ ရှာတဲ့နည်းပါ။

ဥပမာ - သင့်မှာ မေးခွန်း (၄၈) ခု ရှိတယ်။ ဒီမေးခွန်းအားလုံးကို လူတွေကို မေးလိုက်တယ်။ Factor Analysis က ဒီမေးခွန်း (၄၈) ခုထဲက **"အဓိက ဂိမ်းကစားသမား"** ဘယ်နှစ်ယောက်ရှိလဲ၊ ဘယ်မေးခွန်းတွေက တစ်စုတစ်စည်းတည်းဖြစ်နေလဲဆိုတာ ရှာခိုင်းတာပါ။

Factor Analysis ကို ဘာ့ကြောင့် သုံးတာလဲ ?

၁. **ရှုပ်ထွေးမှုကို ရိုးရှင်းအောင်လုပ်ဖို့** - မေးခွန်း ၄၈ ခုကို လူတိုင်းမမှတ်မိဘူး။ အဓိက အကြောင်းရင်း ၄ ခုလို့ ပြောရင် လူတိုင်းနားလည်တယ်။
၂. **ပုံစံရှာဖွေဖို့** - ဘယ်မေးခွန်းတွေက တူတူပဲ ဖြေကြတာလဲ။
၃. **အဓိက အာရုံစိုက်ရမယ့် အချက်တွေကို သိဖို့**

Factor Analysis လုပ်ဖို့ ကြိုတင်စစ်ဆေးရမယ့် အချက်များ

ဒီစာတမ်းမှာ အောက်ပါအချက်နှစ်ချက်ကို အရင်စစ်ဆေးပါတယ်။

၁. Reliability Analysis (ယုံကြည်ရမှု စစ်ဆေးခြင်း)

- **ဘာလဲ** - မေးခွန်းလွှာထဲက မေးခွန်းတွေဟာ တစ်ခုနဲ့တစ်ခု "ဟန်ချက်ညီညီ" ဖြေဆိုကြရဲ့လား။
- **ဘယ်လိုတိုင်းတာလဲ** - **Cronbach's Alpha** ဆိုတဲ့တိုင်းတာနည်းကိုသုံးတယ်။
- **ဘယ်လို အဓိပ္ပာယ်ကောက်မလဲ** -
    - **၀.၉ နဲ့အထက်** - ယုံကြည်ရမှု အလွန်ကောင်း
    - **၀.၇ - ၀.၉** - ယုံကြည်ရမှု ကောင်း
    - **၀.၇ အောက်** - ယုံကြည်ရမှု ညံ့
- **ဒီစာတမ်းမှာ** - Cronbach's Alpha = **၀.၉၀၃ → ယုံကြည်ရမှု အလွန်ကောင်း**

၂. Sampling Adequacy (နမူနာ လုံလောက်မှု စစ်ဆေးခြင်း)

- **KMO Test** - ဒေတာတွေက Factor Analysis လုပ်ဖို့ **"သင့်တော်ပါ့မလား"** ဆိုတာ စစ်ဆေးတယ်။
    - **၀.၉ - ၁.၀** - အလွန်ကောင်း
    - **၀.၈ - ၀.၉** - ကောင်း
    - **၀.၇ - ၀.၈** - သင့်တော်
    - **၀.၆ အောက်** - မသင့်တော်
- **ဒီစာတမ်းမှာ** - KMO = **၀.၈၅၅** → **ကောင်း**
- **Bartlett's Test** - မေးခွန်းတွေကြားမှာ **"ဆက်စပ်မှုရှိရဲ့လား"** ဆိုတာ စစ်ဆေးတယ်။
    - p-value < 0.05 ဖြစ်ရမယ်။
    - **ဒီစာတမ်းမှာ** - p-value = **၀.၀၀၀** → **ဆက်စပ်မှုရှိ**

Factor Analysis လုပ်ငန်းစဉ်

အဆင့် ၁ - Factor ဘယ်နှစ်ခု ထုတ်မလဲ ဆုံးဖြတ်ခြင်း

ဒီစာတမ်းမှာ **Velicer's MAP Test** ဆိုတဲ့ နည်းကိုသုံးပြီး Factor အရေအတွက်ကို ဆုံးဖြတ်တယ်။

- **ရလဒ်** - MAP Test က **Factor ၄ ခု** ထုတ်ယူသင့်တယ်လို့ ညွှန်းဆိုထားတယ်။

အဆင့် ၂ - Factor Loading (တန်ဖိုးတင်ခြင်း)

- **Factor Loading** ဆိုတာ ဘာလဲ - မေးခွန်းတစ်ခုဟာ Factor တစ်ခုနဲ့ **"ဘယ်လောက် ဆက်စပ်မှုရှိလဲ"** ဆိုတဲ့ တိုင်းတာချက်ဖြစ်တယ်။
- **ဥပမာ** -
    - "ငွေကြေးရဖို့ ခက်ခဲလား" ဆိုတဲ့မေးခွန်းက **Financial Factor** နဲ့ **Factor Loading = ၀.၈** ရတယ်ဆိုပါစို့။

- ဆိုလိုတာက - ဒီမေးခွန်းဟာ Financial Factor နဲ့ **အလွန်ပဲဆက်စပ်နေတယ်**။

- **ဘယ်လို အဓိပ္ပာယ်ကောက်မလဲ** -
  - **၀.၇ နဲ့အထက်** - ဆက်စပ်မှု အလွန်ကောင်း
  - **၀.၅ - ၀.၇** - ဆက်စပ်မှု ကောင်း
  - **၀.၃ - ၀.၅** - ဆက်စပ်မှု သင့်တော်
  - **၀.၃ အောက်** - ဆက်စပ်မှု ညံ့

အဆင့် ၃ - Factor Rotation (လှည့်ပတ်ခြင်း)

- **ဘာလဲ** - Factor တွေကို ပိုပြီး **"ရှင်းရှင်းလင်းလင်း မြင်အောင်"** လုပ်တဲ့နည်း။
- **Factor Rotation ဘာ့ကြောင့် လုပ်တာလဲ** - မေးခွန်းတစ်ခုဟာ Factor တစ်ခုတည်းနဲ့ပဲ ဆက်စပ်အောင် လုပ်ဖို့။
- **ဒီစာတမ်းမှာ** - **Varimax Rotation** ဆိုတဲ့နည်းကိုသုံးထားတယ်။

ဒီစာတမ်းရဲ့ Factor Analysis ရလဒ်များ

မေးခွန်း ၄၈ ခုကို Factor Analysis လုပ်ပြီးနောက် **Factor ၄ ခု** ရရှိခဲ့တယ်။

Factor အမည်	ဘာတွေပါလဲ	ဥပမာ မေးခွန်းများ
၁. Support & Network Pillar	အစိုးရထောက်ပံ့မှု၊ အသင်းအဖွဲ့များ	"အစိုးရရဲ့ အခွန်ဥပဒေတွေက လုပ်ငန်းတိုးတက်ဖို့ အဟန့်အတား မဖြစ်စေဘူး"
၂. Human and Culture Pillar	လူသားအရင်းအမြစ်၊ ယဉ်ကျေးမှု	"လုပ်ငန်းအတွက် လိုအပ်တဲ့ ကျွမ်းကျင်သူတွေကို အလွယ်တကူ ငှားရမ်းနိုင်တယ်"

၃. Market & Technology Pillar	စျေးကွက်၊ နည်းပညာ	"နိုင်ငံတကာ ကုမ္ပဏီတွေနဲ့ ယှဉ်ပြိုင်နိုင်တယ်"
၄. Financial Pillar	ငွေကြေးရရှိမှု	"ဘဏ်ကနေ ချေးငွေ အလွယ်တကူ ရနိုင်တယ်"

Factor Analysis ရဲ့ အားသာချက်များ

၁. **ရှုပ်ထွေးတဲ့ဒေတာကို ရိုးရှင်းအောင် လုပ်ပေးနိုင်တယ်**

၂. **အဓိက အာရုံစိုက်ရမယ့် အချက်တွေကို ညွှန်းဆိုပေးတယ်**

၃. **အရင်းအမြစ်တွေကို ထိရောက်စွာ သုံးစွဲနိုင်အောင် ကူညီပေးတယ်**

အနှစ်ချုပ်

Factor Analysis ဟာ **"သစ်ပင်တွေကို မြင်နေရချိန်မှာ သစ်တောကြီးကို မြင်အောင်ကြည့်နိုင်တဲ့"** နည်းလမ်းကောင်းတစ်ခုဖြစ်ပါတယ်။ ဒီစာတမ်းမှာဆိုရင် မေးခွန်း ၄၈ ခုကနေ မြန်မာနိုင်ငံရဲ့ စီးပွားရေးလုပ်ငန်းရှင်တွေ အောင်မြင်ဖို့အတွက် အဓိက အကြောင်းရင်း ၄ ချက်ကို ရှာဖွေတွေ့ရှိခဲ့တာဖြစ်ပါတယ်။

YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF STATISTICS
MASTER OF APPLIED STATISTICS PROGRAMME

FACTOR ANALYSIS OF ENTREPRENEURSHIP ECOSYSTEM IN MYANMAR

AYE MYAT MYAT THU
MAS – 48

APRIL, 2022

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FACTOR ANALYSIS OF ENTREPRENEURSHIP ECOSYSTEM IN MYANMAR

This thesis is submitted to the Board of Examination as partial fulfillment of the requirements for the Degree of Master of Applied Statistics

Approved by the Board of Examiners

Supervised by

Daw Aye Aye Maw
Associate Professor (Retired)
Department of Statistics
Yangon University of Economics

Submitted by

Aye Myat Myat Thu
Roll No. (48)
MAS (Batch-1)
Yangon University of Economics

April, 2022

ACCEPTANCE

Accepted by the Board of Examiners of the Department of Statistics, Yangon University of Economics in partial fulfillment for the requirement of the Master degree, Master of Applied Statistics.

.....…….

(Chairperson)

Professor Dr. Nyut Nyut Win

Professor and Head

Department of Statistics

Yangon University of Economics

…….

(Examiner)

Professor Dr. Mya Thandar

Pro-Rector

Yangon University of Economics

…….

(External Examiner)

Daw Khin Moh Moh

Lecturer (Retd)

Department of Statistics

Yangon University of Economics

…….

(Supervisor)

Daw Aye Aye Maw

Associate Professor (Retired)

Department of Statistics

Yangon University of Economics

…….

(Examiner)

Professor Dr. Hlaing Hlaing Moe

Professor

Department of Statistics

Yangon University of Economics

ABSTRACT

This study focuses on the factors identifying the entrepreneurial ecosystem through the Myanmar Young Entrepreneurs Association (MYEA) whose members are entrepreneurs in different areas and from diversified backgrounds. The main objectives of the study are to explore the demographic and socioeconomic information of Myanmar's entrepreneurs and to identify the factors that affect the success of businesses with an entrepreneurial orientation, with a special focus on young entrepreneurs. Primary data is collected from a random sample of 260 entrepreneurs who are business owners and top management, as well as the members of MYEA. Data collection is done with the permission of the Management Committee of Myanmar Entrepreneurs Association members living throughout Myanmar via online survey mode on their mobile phones in order to reach a wider audience. The secondary data is collected from relevant textbooks, SME associations, previously prepared research papers, and internet websites. The descriptive statistics, factor analysis, and MAP test were used in the study. According to the results, the four main pillars of a unified and systematic ecosystem are the Support and Network Pillar, Human and Culture Pillar, Market and Technology Pillar, and Financial Pillar. Entrepreneurs may apply these identifying factors by strengthening their new ventures to make their entrepreneurial endeavors more successful and long-lasting.

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LIST OF ABBREVIATIONS

ASEAN	Association of South East Asian Nations
AF	Access to Finance
AM	Access to Market
AT	Access to Technology
DICA	Directorate of Investment and Company Administration
EC	Entrepreneurship Culture
EV	Eigenvalues
GS	Government Support
HR	Human Resource
IT	Information Technology
ICT	Information and Communication Technology
KMO	Kaiser Meyer Olkin
MAP	Minimum Average Partial
MD	Medical Doctorate
MYEA	Myanmar Young Entrepreneurs Association
NGO	Non-government Organization
PCA	Principal Component Analysis
SME	Small and Medium-sized Enterprises

CHAPTER I

INTRODUCTION

The essence of an entrepreneurial ecosystem is its people and the culture of trust and collaboration that allows them to interact successfully. An ecosystem that allows for the fast flow of talent, information, and resources helps entrepreneurs quickly find what they need at each stage of growth. To realize growth and innovation, the ecosystem must function well for entrepreneurs. Such an "entrepreneurial ecosystem" is an interactive network of actors who influence each other and the chances of survival of a venture creator and his company in a region or country. Entrepreneurs boost economic growth by introducing innovative technologies, products, and services. Increased competition from entrepreneurs challenges existing firms to become more competitive. Entrepreneurs provide new job opportunities in the short and long term.

1.1 Rationale of the Study

Entrepreneurs are those who can perform the best to deliver on the country's goals of better productivity, prosperity, and inclusion. They create new job opportunities, stimulate innovation, and even provide goods and services more effectively and efficiently. Nowadays, new enterprises are forming broadly, and entrepreneurs are emerging in all sectors and regions in Myanmar. Emerging businesses less than 10 years old are creating a vast number of new jobs in many countries and they can do so in Myanmar as well. Myanmar's entrepreneurs can be an accelerator of growth for the country.

Since a few years ago, the term "entrepreneurship" has become gradually popular in the context of small and medium sized enterprises (SMEs) in Myanmar. Many people all over the world have broadly focused on the differentiation between SME and entrepreneurship, but Myanmar still has less reference in this aspect.

This survey is dedicated to the Myanmar entrepreneurs who have been courageous, taken risks, and invested their resources, time, and full effort on many occasions in building up Myanmar better, contributing to in policy dialogue with the government and mentoring upcoming entrepreneurs. The survey consulted in-depth with entrepreneurs in many industries and regions under the Myanmar Young Entrepreneurs Association (MYEA).

Moreover, just establishing an entrepreneurial orientation strategy within a company would not guarantee a successful company's future unless knowing the Entrepreneurship Ecosystem. Building up a strong Entrepreneurship Ecosystem generally has six main pillars: access to market, access to finance, access to technology, building human capacity, setting policy and entrepreneurship culture.

Without understanding the following aspects, Myanmar's entrepreneurial development cannot be built up successfully. Understanding Myanmar Entrepreneurs, factors that have positively influenced the success of entrepreneurial businesses in Myanmar, the support of contributors and collaborators, which are key players in the development of Entrepreneurship in Myanmar. This study analyzed the factors identifying the Myanmar entrepreneurship ecosystem is critical in order to capitalize on the ecosystem's development.

1.2 Objectives of the Study

The main objectives of the study are:

i. To explore the demographic and socio-economic characteristics of the Myanmar Entrepreneurs and
ii. To identify factors which influence entrepreneurship ecosystem in Myanmar.

1.3 Methods of Study

Descriptive statistics was taken in order to understand the demographic and socio-economic characteristics of Myanmar's entrepreneurship. A factor analysis was employed to study the identified factors in the Myanmar entrepreneurship ecosystem. Both primary and secondary data were used in this study. For secondary data, this study was based on information from internet websites, the data from the Myanmar Young Entrepreneurs Association, relevant published books, related research papers, and theses. The required primary data was collected by using a simple random sampling method. A structured questionnaire was used to collect primary data.

1.4 The Scope and Limitations of the Study

This study was focused only on identifying the factors of the Myanmar entrepreneurship ecosystem at the time of the survey. In its early stages of entrepreneurship, Myanmar has a very limited source of entrepreneurs, which can be differentiated from the Small and Medium Enterprises (SME). The primary data was

taken from the Myanmar Young Entrepreneurs Association (MYEA), which has 779 active members at the time of the survey in 2019. In this study, a simple random sample of 260 respondents was selected from 779 active members and data collection was done via online survey.

1.5 The Organization of the Study

The study is formally organized with Five Chapters. In chapter one, the introduction, rationale of the study, method of study, scope and limitations of the study and organization of the study are described. Chapter Two presents an overview of the Entrepreneurship Ecosystem among Entrepreneurs in Developing Countries. Research methodology is mentioned in chapter three. In chapter four, the results and findings are described. Chapter five concludes the findings concerned with the Myanmar Entrepreneurship Ecosystem, and then suggestions and recommendations were also prescribed.

CHAPTER II
OVERVIEW OF ENTREPRENEURSHIP ECOSYSTEM

This chapter presents the definition of entrepreneurship, entrepreneurship ecosystem, entrepreneurship ecosystem among entrepreneurs in developing countries, Myanmar entrepreneurship, Myanmar young entrepreneurs association and literature review of entrepreneurship ecosystem.

2.1 Definition of Entrepreneurship

Entrepreneurs are people who innovate in commercially or socially useful ways who create new businesses and projects by launching new products, services, and processes. They are the keen to adopt new technologies, new business models and find new ways to fulfill unmet needs or create better value for society. Most entrepreneurs are young and are founders of their first enterprises though there are some serial entrepreneurs. In many countries, they are in their thirties or forties and have gained valuable experience working for others, or they are innovating in new areas from their own business base.

There are many definitions of entrepreneurship. Among them, Christopher S. Hayter's definition is: "Knowledge-based Entrepreneurship is a process of application and customization of a combination of domain, market, industry-specified, area, and cultural knowledge to affect economically prudent and sustainable business ventures" (Hayter, 2013).

Entrepreneurs tend to launch products, services, and processes that are original or adapted from ones that they have seen elsewhere. Sometimes, they start entirely new industries. They introduce new technologies and try new business processes. They market in novel and creative ways. Entrepreneurs are good at both identifying needs that are not being met and meeting those needs.

Entrepreneurs focus on innovation and growth, which generates higher incomes for people and creates jobs. Entrepreneurs are demonstrably contributing to government objectives for job creation. Entrepreneurs boost productivity in all sectors of the economy, including agriculture. Entrepreneurial businesses include not only those in the information technology (IT) sector, but also those in agriculture and agribusiness,

transportation and logistics, health care, education, food processing, wholesale and retail trade, tourism, business services, and consumer services.

2.2 Entrepreneurship Ecosystem

An entrepreneurial ecosystem or entrepreneurship ecosystems are peculiar systems of interdependent actors and relations directly or indirectly supporting the creation and growth of new ventures. An entrepreneurship ecosystem includes actors such as entrepreneurs, firms, angel investors, venture capital companies, banks, nongovernmental organizations (NGOs) and civil society organizations, universities, government agencies, trainers, researchers, and others that help inform, support, and monitor the state of entrepreneurs in a given country, city, or locality.

The ecosystem's performance is measured by tracking the number of startups, the number of high-growth firms, the levels of high-impact entrepreneurs, the number of serial entrepreneurs, data on the aspirational values of young people, and investments in the entrepreneurship sector. The key elements or pillars in an ecosystem combine into a unified, systematic ecosystem; they should neither be viewed as being implemented sequentially nor as any one being more important than any other. They are not independent of each other—improvements in one pillar will often lead to improvements in others, while weaknesses in one pillar can make conditions more difficult in other pillars. Strengthening an entrepreneurial ecosystem can be a decade-long process, so it is important to calibrate expectations and champion broad support.

There are different types of ecosystems such as Startup ecosystem and University-based entrepreneurship ecosystem:

Startup ecosystem - following the financial downturn of 2008 and the long-lasting slow growth period, there have been increasing focus towards fostering more startup company creation around the world to further target regional support efforts towards those type of companies that have higher innovation, growth and job creation potential. This has also led to an increasing focus on startup ecosystem development.

University-based entrepreneurship ecosystem – Entrepreneurship thrives in ecosystems in which multiple stakeholders play key roles. Academic institutions are central in shaping young people's attitudes, skills and behaviors. However, actors outside of the education systems play an increasingly critical role in working with formal and informal educational programs as well as reaching out to underserved and

socially excluded targets groups. This requires collaboration and multistakeholder partnerships. Entrepreneurship ecosystems commonly refer to academic programs within a university that focus on the development of student/graduate entrepreneurs and/or the commercialization of technology or intellectual property developed at the university level. However, before the entrepreneurial ecosystem can bloom, the education system must embrace the idea that entrepreneurship is a core element of higher education.

2.3 Entrepreneurship Ecosystem among Entrepreneurs in Developing Countries

Entrepreneurs create solutions for some of society's most difficult development challenges. They create new and effective approaches to many different sectors like education, health, daycare, and waste management. Some form social enterprises to deliver these services. Other countries have reaped significant benefits from these entrepreneurial solutions, which, when properly licensed and supervised, can decrease government spending budgets and human resource costs.

Entrepreneurs take their own responsibility and do not expect special favors, protection, or subsidies much from others. They value fair play and not be unduly hampered as they go about creating value for the country. They know that prosperity rests on the shoulders of the productive sectors. They believe in being legally incorporated. They also excel at observing how things are being done in other countries and bringing ideas back home countries. Myanmar desperately needs these skills and approaches to catch up with other ASEAN (Association of Southeast Asian Nations) countries and the rest of the world in terms of inclusive and sustainable economic growth. Table (2.1) presents a qualitative ranking in the Entrepreneurship white paper of Myanmar Young Entrepreneurs Association on the quality of Myanmar's entrepreneurship ecosystem relative to its neighboring countries in 2016. The ranking based on the Likert scale from 0 to 5.

Table (2.1) Quality of Entrepreneurship Ecosystems by Pillar

Country	Access to Markets	Access to Finance	Human Capacity	Supports/ Networks	Culture of Entrepre-neurship	Entrepre-neurship Policy
Myanmar	1.5	1	1	1.5	1	1
Cambodia	1.5	2	2	1.5	1	2
Laos	1	1.5	1.5	1	1	2
Malaysia	2.5	2.5	2.5	3.5	1.5	4
Singapore	3.5	4	4.5	3.5	3.5	4.5
Thailand	2.5	2.5	3.5	2	3.5	4
Vietnam	2.5	2	2.5	2.5	3.5	3

Source: Babson College Entrepreneurship Ecosystem Project (2010)

Notes: 0 = absent; 1 = very weak; 5 = very strong.

2.4 Myanmar Entrepreneurship

According to the referenced white paper published by Myanmar Young Entrepreneurs Association (MYEA) in 2017, entrepreneurs provide benefits for Myanmar. Entrepreneurs currently generate thousands of jobs and plan on continuity to grow. They contribute to Myanmar's economic growth by creating new products, services, and business processes. They enhance productivity and help solve problems. They start new ventures and can lead a country into entirely new industries. In agribusiness, for instance, some are buying, freezing, packaging, and exporting fruits and vegetables, helping to diversify agriculture away from an overreliance on rice whilst others are introducing new processing techniques and working with farmers to grade and export Myanmar’s high-value coffee, flavorful mangoes, and much more. An entrepreneurship policy shall benefit all industries and all regions of Myanmar, enhancing truly inclusive growth. They are helping Myanmar catch up to global standards in many industries. Entrepreneurs create the basis for a socially responsible society marked by inclusive growth. As entrepreneurs grow, they help ensure that a stable middle class will develop to contribute to political stability and sustained economic growth.

Myanmar is emerging from decades of political and economic stagnation—a system that encouraged privilege for the few and made it difficult for the vast majority to prosper and grow.

Nowadays, a much broader segment of Myanmar's economy—the men and women who own businesses, buy and sell goods and provide services to their customers, and who look to regional and global markets for inspiration on new processes, products, and markets that can add value to people's lives in Myanmar. Table (2.2) states that the indicative list of ecosystem actor types and organizations in Myanmar as of 2016.

Table (2.2) Indicative List of Ecosystem Actor Types & Organizations

Type of Ecosystem Actor	Organization
Accelerators	Phandeeyar (Yangon)
	TechUp
Incubators	Project Hub (Yangon)
	Social Impact Myanmar - SIM (Yangon)
Shared Working Space	Kaunang Hub (Yangon)
	Officecubed (Yangon)
Formal Mentoring	Phandeeyar (Yangon)
	The Myanmar Women's Mentoring Network (Yangon)
	Several organizations offer condensed mentoring opportunities
Entrepreneurship-focused Associations	Myanmar Young Entrepreneurs Association (Yangon, Mandalay, Taunggyi, Pathein, Mawlamyine)
	Myanmar Women Entrepreneurs' Association (Yangon)
	Myanmar Computer Industry Association - MCIA (Yangon)
	Myanmar Business Executives – MBE (Yangon)
	Women Entrepreneurs Working Group - Shan State (Taunggyi)
	Young Entrepreneurs Network (Kayin State)

Table (2.2) Indicative List of Ecosystem Actor Types & Organizations (Continued)

Type of Ecosystem Actor	Organization
Business Skills Training	Strategy First (Yangon)
	PS Business School (Yangon)
	Building Markets (Yangon)
	Entrepreneurship Development Network Asia – EDNA
	HP-Life/ADEPT Program (Advancement and Development through Entrepreneurship Programs and Training partnership ADEPT) (Yangon plus 12 other cities)
	Mennonite Economic Development Association – MEDA (Yangon, Taunggyi and Hpa-an)
	Partnership for Change (Yangon & Nyaung Shwe)
	ILO's Start & Improve Your Business Program – SIYB (Yangon)
	The Swiss Academy for Development (Yangon)
	Several private business schools (largely in Yangon)
	GIZ (Yangon, Taunggyi)
Entrepreneurship Courses	Yangon University of Economics MBA Program
	Education for Entrepreneurs (E4E) by British Council – Myanmar and Standard Chartered Bank (Yangon, Taunggyi, Magway, Pyapon, Pyay)
	Myanmar Young Entrepreneurs Association - MYEA (Yangon)
Seed Funding (US$0–25,000)	500 Startups
	Phandeeyar (Yangon)
Private Equity Series A (US$50,000–300,000)	Anthem Asia
	Several nonresident venture capital firms
	500 Startups
	KBZ Business Development Unit
	YGA Capital

Table (2.2) Indicative List of Ecosystem Actor Types & Organizations (Continued)

Type of Ecosystem Actor	Organization
Private Equity Series B (US$ millions)	Anthem Asia (Yangon) Myanmar Investment International Ltd.
	Myanmar Investment International Ltd.
	International Finance Corporation
	Several nonresident venture capital firms
Events' Organizers	Myanmar Young Entrepreneurs Association (MYEA) (Yangon and other cities)
	Global Entrepreneurship Week - organized by Building Markets, supported by USAID (Yangon and other cities)
	Union of Myanmar Federation of Chambers of Commerce and Industry – UMFCCI (Yangon and other cities)
	Union of Myanmar Tourism Association - UMTA
	Myanmar Women's Mentoring Network (Yangon)
	Dawei Millennium Center (Dawei)
	Young Entrepreneurs Network (Kayin State)
	Project Hub (Yangon)
	Phandeeyar (Yangon)
Media	Myanmar Entrepreneurship Magazine
	CEO Magazine Myanmar

Source: Entrepreneurship White Paper by Myanmar Young Entrepreneurs Association (2016)

2.5 Myanmar Young Entrepreneurs Association

In 2008, there was an initiative between ASEAN and China to form the ASEAN China Young Entrepreneurs Forum, where the leading young entrepreneurship associations from ASEAN and China would come together for the development of entrepreneurship in the region. At that time, Myanmar did not have a representative organization to participate in this initiative. Due to this, under the guidance and support of the Union of Myanmar Federation of Chambers of Commerce and Industry, the Myanmar Young Entrepreneurs Group for formed in November 2009.

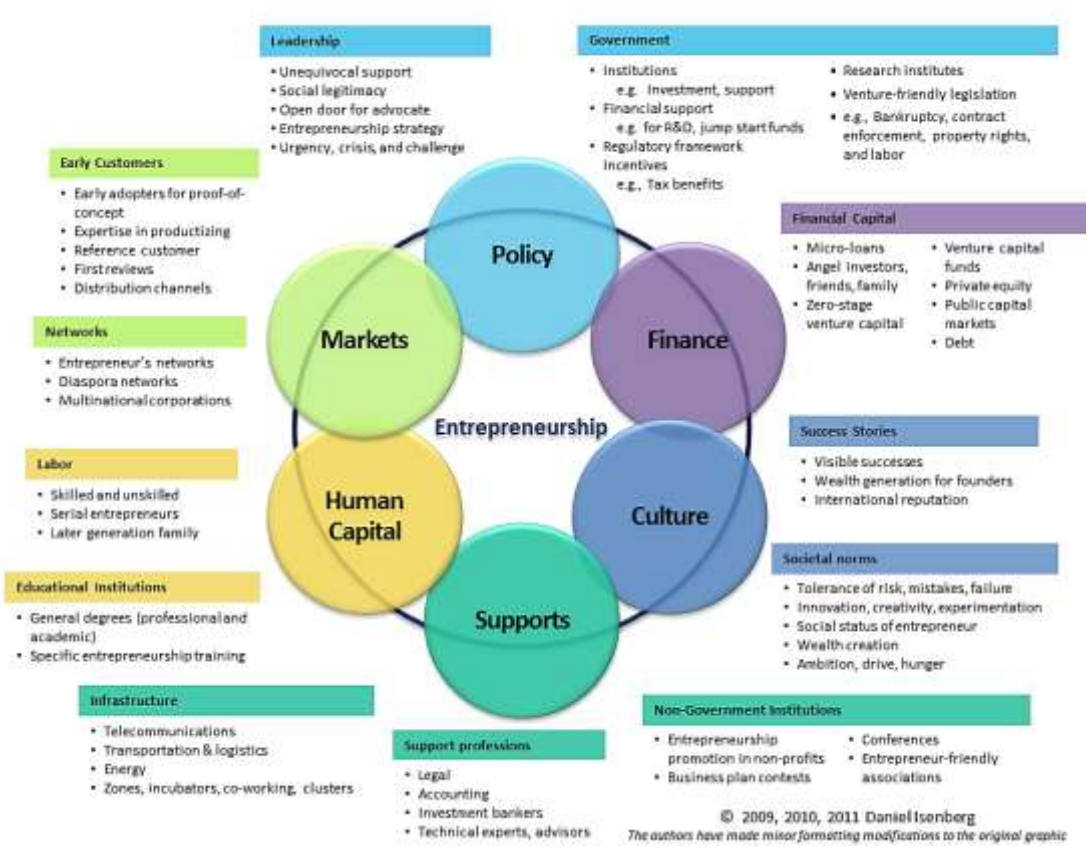
The Group participated actively in local and regional entrepreneurship development events and grew rapidly. In June 29, 2012, the Group was upgraded and became the Myanmar Young Entrepreneurs Association (MYEA). The association is one of the primary architects and founding members of the ASEAN Young Entrepreneurs Council and, in March 2015, it was recognized by the Ministry of National Planning and Economic Development of the Republic of the Union of Myanmar as the Lead Association that will represent Myanmar in the Council. This cemented the association not only as a local but regional player in the entrepreneurship development space.

The main objective of the association is to empower young entrepreneurs and assist in creating a vibrant entrepreneurship ecosystem in Myanmar. The vision of MYEA is "To be the leading, recognized institution for the empowerment of young entrepreneurs" and their mission statement says that "To empower young entrepreneurs and assist in creating a vibrant entrepreneurship ecosystem in Myanmar for national development and inclusive growth and innovation". As of today, MYEA has organized and participated in numerous events and activities with a variety of organizations both locally as well as internationally. The main activities of MYEA are; Member Days, Seminar and Workshops, Entrepreneurship Development Caravans, Certified Entrepreneurship Capacity Building Programs, Entrepreneurship Assistance Networks and Entrepreneurs Network Parties. MYEA also conducts the Special Projects such as Annual Entrepreneurship Summit and Awards, Incubator/Mentorship Network, Tigers@Mekong Entrepreneurship Boom Camp, RISE Camp for Business Plan Development, Angel Investment Network, Social Entrepreneurship Forum and the like.

Their members include an impressive pool of young entrepreneurs covering all sectors of the industry, with diverse abilities and expertise who are passionate about the growth and development of entrepreneurship in Myanmar and have a culture of a Community of Friends. MYEA stands ready to cooperate with others in the pursuit of growth and development in Myanmar and the region. At the time of this study in 2019, MYEA had 779 active members across the country with balanced ration of gender among in all the members.

2.6 Literature Review of Entrepreneurship Ecosystem

There are a number of models of Entrepreneurial Ecosystem. A widely used framework was developed by Professor Daniel Isenberg, the world's leading global entrepreneurship expert of Babson College in the United States as shown in the Figure (2.1). He identifies six domains within the entrepreneurial system: a conductive culture, enabling policies and leadership, availability of appropriate finance, quality human capital, venture friendly markets for products, and a range of institutional supports. These generic domains comprise hundreds of elements interacting in highly complex and idiosyncratic ways. Identifying generic causal paths is therefore of limited value. He therefore emphasizes the importance of context: each ecosystem emerges under a unique set of conditions and circumstances. The six areas are based on an assessment of global best practices drawn from extensive research among countries that have achieved high levels of entrepreneurship. These six pillars create what Isenberg calls an "entrepreneurship ecosystem," i.e., the environment conducive to the starting and growing of firms. Each pillar has specific proposed activities, time frames, implementing parties, and priorities. He maintains that such an approach constitutes a novel and cost-effective strategy for stimulating economic prosperity. According to Isenberg, this approach potentially replaces or becomes a pre-condition for the successful deployment of cluster strategies, innovation systems, knowledge economy or national competitiveness policies.



Source: Isenberg Model of the Entrepreneurship Ecosystem (Babson College Project 2011)

Figure (2.1) Six Pillars of the Entrepreneurship Ecosystem

The Babson College Entrepreneurship Ecosystem Project categorizes this framework into six domains _ policy, finance, culture, supports, human capital and markets. Additional scholarships have reinforced this conceptualization, and Liguori and colleagues created a measure that has been widely used nationally to assess communities.

- *Policy* covers government regulations and support.
- *Finance* domain includes the full spectrum of financial services available to entrepreneurs.
- *Culture* covers societal norms and success stories that help to inspire people to become entrepreneurs.
- *Support* domain includes non-governmental institutions, infrastructure and the professionals support such as investment bankers, technical experts and advisors.
- *Markets* cover entrepreneurial networks and customers.

- *Human capital* includes education system and the skill level of the workforce.

Several academic researchers have begun to investigate entrepreneurial ecosystems as well. Spigel, the author of The Relational Organization of Entrepreneurial Ecosystems (2017), suggests that ecosystems require cultural attributes (a culture of entrepreneurship and histories of successful entrepreneurship), social attributes that are accessed through social ties (worker talent, investment capital, social networks, and entrepreneurial mentors) and material attributes grounded in the specific places (government policies, universities, support services, physical infrastructure, and open local markets). Stam who wrote "Entrepreneurial Ecosystems and Regional Policy (2015) distinguishes between framework conditions of ecosystems (formal institutions, culture, physical infrastructure, and market demand) with systematic conditions of networks, leadership, finance, talent, knowledge, and support services.

There are various key conditions which define a healthy ecosystem. The ecosystem:

- is tailored around its own unique environment
- operates in an environment with reduced bureaucratic obstacles in which government policies support the unique needs of entrepreneurs and tolerate failed ventures
- actively encourages and invites financiers to participate in new ventures - although access to money isn't without barriers for those planning new business ventures
- is reinforced, not created from scratch, by government, academic or commercial organizations
- is relatively free from, or is able to change the cultural biases against failure or operating a business
- promotes successes, which in turn attract new ventures
- is supported by dialogue among various of the entrepreneurship stakeholders

.

The white paper titled "Entrepreneurship: Key to Inclusive and Sustainable Growth in Myanmar (2016)" which was done by Myanmar Young Entrepreneurs Association refers to an entrepreneurial policy built on six strategic pillars that create a dynamic ecosystem to enable growth entrepreneurship. This framework is informed by global research and best practices learned from other countries' entrepreneurship initiatives, while remaining closely tied to Myanmar's actual conditions. The entrepreneurship white paper outlines steps to help Myanmar realize that goal. It is affirmed in Myanmar on the basis of more than 100 interviews and an in-depth survey of 260 Myanmar entrepreneurs from many industries and regions in 2016. This widely used framework was developed by Professor Daniel Isenberg of Babson College in the United States. The Organization for Economic Cooperation and Development (OECD), which coordinates policies among the advanced economies, utilizes this framework as well. The MYEA is using this approach as a guide for strengthening entrepreneurship and it was used in the landmark 2015 report on Yangon's startup ecosystem. The approach is based on a good understanding of what enables entrepreneurs to start and grow their enterprises. It avoids approaches tried by other countries that have not proved to be effective. For example, subsidized incubators and government-funded grant and loan programs have typically not been effective, since they tend to reach only a small group of beneficiaries that can navigate approval processes. It is far more important to encourage what is called an "entrepreneurial ecosystem," which can encourage a broad and diverse set of entrepreneurs to emerge.

In this study, Professor Isenberg's "Six Strategic Pillars of Entrepreneurship Ecosystem" is taken as a conceptual framework in order to conduct "Factor analysis of Myanmar Entrepreneurship Ecosystem". The survey questionnaire is constructed focusing on these six strategic pillars as mentioned above.

CHAPTER III
RESEARCH METHODOLOGY

In this chapter, research methodology of the study is discussed in detail. It includes survey design, reliability analysis and factor analysis. The survey design includes questionnaire design, sample size determination and data collection methods. Reliability analysis includes reliability test and testing for sampling adequacy. Factor analysis includes orthogonal factor model, methods of estimation, residual matrix and factor rotation.

3.1 Survey Design

Sample survey is the most commonly used method for primary data collection. The sample survey was conducted in Myanmar Young Entrepreneurs Association (MYEA) to obtain the required information. To carry out the survey, it is needed to state clearly the objectives of the survey. The objectives of the survey under the study are to collect data on demographic and socioeconomic characteristics of entrepreneurs, and to analyze the crucial factors for perception on the level of importance of six strategic pillars of entrepreneurship ecosystem.

3.1.1 Questionnaire Design

To find out the identifying factors of Myanmar entrepreneurship ecosystem, a structured questionnaire survey was used to acquire the required data on demographic and socio-economic characteristics of entrepreneurs from Myanmar Young Entrepreneurs Association (MYEA).

The survey was composed of two parts of the questions. The first part of the questionnaire was the demographic and socioeconomic characteristics of Myanmar entrepreneurs and their businesses nature. The second part was composed of the questions which provided perception on the level of importance of six strategic pillars of entrepreneurship ecosystem such as finance, market, technology, human resource, entrepreneurship culture and government support. The questionnaire included 64 questions. There were 16 questions demographic and socioeconomic characteristics and the rest 48 questions are five-point likert scale questioners.

The study adhered to the ethical considerations as follows:

- Permission to conduct the survey was taken in advance from the Myanmar Young Entrepreneurs Association (MYEA)
- Interviewers were organized and trained properly to keep information security and ethical issues.
- Interviewees were respected for the autonomy and self-determination with their sole consent to participate in survey. This study takes respondents data on highly confidentiality.

3.1.2 Sample Size Determination

In this study, a simple random sampling design was used to carry out a sample survey. In line with the proposed sampling design, 260 entrepreneurs were randomly selected from Myanmar Young Entrepreneurs Association (MYEA). The population is 779 active members of Myanmar Young Entrepreneurs Association (MYEA) in 2019, the required sample size was calculated using Cochran's method.

$$n = \frac{n_0}{1+\frac{n_0-1}{N}}$$

where,

$$n_0 = \frac{Z^2 p\,(1-p)}{e^2}$$

N = population size = 779

Z = 95% confidence level = 1.96

e = desired level of precision = 0.05

p = estimated population proportion = 0.5

Therefore,

$$n_0 = \frac{(1.96)^2\,(0.5)(1-0.5)}{(0.05)^2} = 385$$

Hence, $n = \frac{385}{1+\frac{(385-1)}{779}} = 260$

According to the calculation, the required sample size was at least 260 members.

3.1.3 Data Collection Method

The training of interviewers was held in the first week of July 2019. The training involved explaining the objectives of the sample survey, discussing the questionnaires and visiting enumeration areas. The target population consisted of 779 active members of Myanmar Young Entrepreneurs Association (MYEA) in 2019. The data collection of the respondents was conducted by sending out survey questionnaire form to the address of these respondents using postal service and also follow up calls via phone for their feedback.

3.2 Reliability Analysis

Reliability is the scale construction counterpart of precision and accuracy in physical measurement. Reliability can be thought of as consistency in measurement. To establish the reliability of the data, the reliability coefficient (Cronbach Alpha) was verified. There are a number of different reliability coefficients. One of the most commonly used is Cronbach's alpha. Cronbach's alpha can be interpreted as a correlation coefficient; it ranges a value from 0 to 1. Robinson and Shaver (1973) suggested that if Alpha is greater than 0.7, it means high reliability and if Alpha is smaller than 0.3, it means low reliability.

3.2.1 Reliability Test

Before using the factor analysis, it is very important to test the reliability of the dimensions in the questionnaires. Cronbach's alpha, a statistical test used to examine the internal consistency of attributes, was determined for each dimension. This statistical test shows the attributes are related to each other and to the composite scores. The composite scores for each section of the questionnaires was obtained by summing up the scores of individual statements. Cronbach's alpha is defined as –

$$\alpha = \frac{K}{K-1}\left[1 - \frac{\sum_{1=1}^{k} S_i^2}{S_T^2}\right] \quad (3.1)$$

Where,

α = Cronbach's alpha,

K = Number of Statement

S_i^2 = variance of each statement

S_T^2 = variance for sum of all items

3.2.2 Testing for Sampling Adequacy

Kaiser-Meyer-Olkin (KMO) test is a measure of how suited the data is for Factor Analysis. The test measures sampling adequacy for each variable in the model and for the complete model. The statistics is a measure of the proportion of variance among variables that might be common variance. If lower the proportion, the more suited the data is to Factor Analysis. KMO takes the value between 0 and 1. A rule of thumb for interpreting the statistic. KMO value lies between 0.8 and 1.0 indicate the sampling is adequate. KMO value less than 0.6 indicates the sampling is not adequate and that remedial action should be taken. KMO values close to zero means that there are large partial correlations compared to the sum of correlations. In other words, there are widespread correlations which are a large problem for factor analysis

The Bartlett's test of Spherically relates to the significance of the study and thereby shows the validity and suitability of the responses collected to the problem being addressed through the study. For a large sample, Bartlett's test approximates a Chi-square distribution. However, the Bartlett's test compares the observed correlation matrix to the identity matrix. Therefore, the Bartlett's test forms something of a bottom- line test for large samples, but is less reliable for small samples. For factor analysis to be recommended suitable, the Bartlett's Test of Sphericity must be less than 0.05. In addition, very small values of significance (below 0.05) indicate a high probability that is significance relationship between the variables, whereas higher values (0.1 or above) indicate the data is inappropriate for factor analysis.

3.3 Factor Analysis

3.3.1 Orthogonal Factor Model

The orthogonal factor (Richard A. Johnson, 1992) was described. The observable random vector X, with p components, has mean μ and covariance matrix $\mathbf{\Sigma}$. The factor model postulates that $\mathbf{X}$ is linearly dependent upon a few unobservable random variables F_1, F_2, …., F_m, called common factors, and p additional sources of variation e_1, e_2, … e_p, called errors or, sometimes, specific factors. in particular, the factor model can be selected as follows:

factor is

$$X_1 - \mu_1 = \ell_{11}F_1 + \ell_{12}F_2 + \ell_{13}F_3 + \ldots + \ell_{1m}F_m + \varepsilon_1$$
$$X_2 - \mu_2 = \ell_{21}F_1 + \ell_{22}F_2 + \ell_{23}F_3 + \ldots + \ell_{2m}F_m + \varepsilon_2$$
$$\vdots \qquad\qquad \vdots$$
$$X_p - \mu_p = \ell_{p1}F_1 + \ell_{p2}F_2 + \ell_{p3}F_3 + \ldots + \ell_{pm}F_m + \varepsilon_p$$

or in matrix notation,

$$\underset{(p\times 1)}{\mathbf{X} - \boldsymbol{\mu}} = \underset{(p\times m)}{\mathbf{L}}\ \underset{(m\times 1)}{\mathbf{F}} + \underset{(p\times 1)}{\boldsymbol{\varepsilon}} \tag{3.2}$$

μ_i = mean of variable *i*

ε_i = i^{th} specific factor

F_j = j^{th} common factor

ℓ_{ij} = loading of the i^{th} variable on the j^{th} factors

The unobservable random vectors **F** and **ε** satisfy the following conditions:

F and ε are independent

$E(\mathbf{F}) = \mathbf{0}$, Cov $(\mathbf{F}) = \mathbf{I}$

$E(\boldsymbol{\varepsilon}) = \mathbf{0}$, Cov $(\boldsymbol{\varepsilon}) = \boldsymbol{\Psi}$, where **Ψ**is a diagonal matrix

Covariance Structure for Orthogonal Factor Model

The orthogonal factor model implies a covariance structure for X,

$$\sum = \text{Cov}(\mathbf{X}) = \text{E}(\text{X} - \mu)$$
$$= \text{LE}(\text{FF}')L' + \text{E}(\varepsilon F')L' + \text{LE}(F\varepsilon') + \text{E}(\varepsilon\varepsilon')$$
$$= \mathbf{L}\mathbf{L}' + \boldsymbol{\Psi}$$

by independence, $\text{Cov}(\boldsymbol{\varepsilon},\mathbf{F}) = \text{E}(\varepsilon,\text{F}') = 0$

$$\text{Cov}(\mathbf{X}) = \mathbf{L}\mathbf{L}' + \boldsymbol{\Psi}$$

Or

$$\text{Var}(X_i) = \ell_{i1}^2 + \cdots + \ell_{im}^2 + \psi_i$$
$$\text{Cov}(X_i, X_k) = \ell_{i1}\ell_{k1} + \ell_{i2}\ell_{k2} + \cdots + \ell_{im}\ell_{km}$$
$$\text{Cov}(\mathbf{X}, \mathbf{F}) = \mathbf{L}$$

Or

$$\text{Cov}(X_i, F_j) = \ell_{ij}$$

The model $\mathbf{X} - \boldsymbol{\mu} = \mathbf{L}\mathbf{F} + \boldsymbol{\varepsilon}$ is linear in the common factors. The portion of the variance of the i^{th} variable contributed by the *m* common factors is called the i^{th}

communality. That portion of Var (X_i) = σ_{ii} due to the specific factor is called uniqueness or specific variance. Denoting the i^{th} communality by h_i^2,

$$\underbrace{\sigma_{ii}}_{\text{Var}(X_i)} = \underbrace{\ell_{i1}^2 + \ell_{i2}^2 + \cdots + \ell_{im}^2}_{\text{communality}} + \underbrace{\psi_i}_{\text{Specific Variance}} \qquad (3.3)$$

or

$$h_i^2 = \ell_{i1}^2 + \ell_{i2}^2 + \cdots + \ell_{im}^2$$

and

$$\sigma_{ii} = h_i^2 + \psi_i, \qquad i = 1, 2, \cdots, p$$

The i^{th} communality is the sum of squares of the loadings of the i^{th} variable on the m common factors.

3.3.2 Methods of Estimation

The sample covariance matrix **S** is an estimator of the unknown population covariance matrix $\sum$**.** If the off-diagonal elements of **S** are small or those of the sample correlation matrix **R** essentially zero, the variables are not related, and a factor analysis will not prove useful. In these circumstances, the specific factors play the dominant role, whereas the major aim of factors analysis is to determine a few important common factors (Richard A. Johnson, 1992).

If $\sum$ appears to deviate significantly from a diagonal matrix, then a factor model can be entertained, and the initial problem is one of estimating the factor loadings $\boldsymbol{\ell_{ij}}$ and specific variances $\boldsymbol{\psi_i}$. Two most popular methods of the parameter estimation are the principal component method and the maximum likelihood method. the solution from either method can be rotated in order to simplify the interpretation of factors. If the factor model is appropriate for the problem to try more than one method of solutions should be consistent with one another.

The Principal Component Method

The Principal Factor (Richard A. Johnson, 1992) was described. The spectral decomposition provides us with one factoring of the covariance matrix Σ. Let Σ have eigenvalue – eigenvector pairs ($\lambda_{i,}e_i$) with$\lambda_1 \geq \lambda_2 \geq \cdots \geq \lambda_p \geq 0$. then,

$$\sum = \lambda_1 e_{\,1} e_1' + \lambda_2 e_{\,2} e_2' + \cdots + \lambda_p e_{\,p} e_p'$$

$$= \left[\sqrt{\lambda_1}e_1 \vdots \sqrt{\lambda_2}e_2 \vdots \cdots \vdots \sqrt{\lambda_p}e_p\right] \begin{bmatrix} \sqrt{\lambda_1}e_1' \\ \hdashline \sqrt{\lambda_2}e_2' \\ \hdashline \vdots \\ \hdashline \sqrt{\lambda_p}e_p' \end{bmatrix}$$

This fits the prescribed covariance structure for the factor analysis model having as many factors as variables (m =p) and specific variances ψ_i = 0 for all i, the loading matrix has *j*th column given by $\sqrt{\lambda_i}e_j$. This can be written

$$\underset{(p\times p)}{\sum} = \underset{(p\times p)}{\mathbf{L}}\ \underset{(p\times p)}{\mathbf{L}'} + \underset{(p\times p)}{\mathbf{0}} = \mathbf{L}\mathbf{L}' \tag{3.4}$$

Apart from the scale factor $\sqrt{\lambda_i}$, the factor loadings on the j^{th} factor are the coefficients for the *j*th principal component of the population.

Although the factor analysis representation of **Σ** is exact, it is not particularly useful. It employs as many common factors as there are variables and does not allow for any variation in the specific factors ***ε***. One approach when the last **p-m** eigenvalues are small, is to neglect the contribution of $\lambda_{m+1}e_{m+1}e_{m+1}' + \cdots + \lambda_p e_p e_p'$ to $\sum$. Neglecting this contribution, the approximation is obtained.

$$\sum = \left[\sqrt{\lambda_1}\mathbf{e}_1 \vdots \sqrt{\lambda_2}\mathbf{e}_2 \vdots \cdots \vdots \sqrt{\lambda_m}\mathbf{e}_m\right] \begin{bmatrix} \sqrt{\lambda_1}e_1' \\ \hdashline \sqrt{\lambda_2}e_2' \\ \hdashline \vdots \\ \hdashline \sqrt{\lambda_m}e_m' \end{bmatrix} = \underset{(p\times m)}{\mathbf{L}}\ \underset{(m\times p)}{\mathbf{L}'}$$

The approximate representation is assuming that the specific factors ***ε*** are of minor importance and can also be ignored in the factoring of **Σ**. The approximation can be written as following:

$$\sum = \mathbf{L}\,\mathbf{L}' + \mathbf{\Psi} \tag{3.5}$$

$$= \left[\sqrt{\lambda_1}\mathbf{e}_1 \vdots \sqrt{\lambda_2}\mathbf{e}_2 \vdots \cdots \vdots \sqrt{\lambda_m}\mathbf{e}_m\right] \begin{bmatrix} \sqrt{\lambda_1}\mathbf{e}_1' \\ \sqrt{\lambda_2}\mathbf{e}_2' \\ \vdots \\ \sqrt{\lambda_m}\mathbf{e}_m' \end{bmatrix} + \begin{bmatrix} \psi_1 & 0 & \cdots & 0 \\ 0 & \psi_2 & \cdots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \cdots & \psi_p \end{bmatrix}$$

where $\psi_i = \sigma_{ii} - \sum_{j=1}^{m} \ell_{ij}^2$ for i = 1, 2, ... , p

To apply this approach to a data set $\mathbf{x}_1, \mathbf{x}_2, \ldots, \mathbf{x}_n$, it is customary first to center the observations by subtracting the sample mean $\bar{x}$. The cantered observations

$$\mathbf{x}_j - \bar{\mathbf{x}} = \begin{bmatrix} x_{j1} \\ x_{j2} \\ \vdots \\ x_{jp} \end{bmatrix} - \begin{bmatrix} \bar{x}_1 \\ \bar{x}_2 \\ \vdots \\ \bar{x}_p \end{bmatrix} = \begin{bmatrix} x_{j1} - \bar{x}_1 \\ x_{j2} - \bar{x}_2 \\ \vdots \\ x_{jp} - \bar{x}_p \end{bmatrix}, \quad j = 1, 2, \ldots, n$$

have the same sample covariance matrix **S** as the original observations.

In cases where the units of the variables are not commensurate, it is usually desirable to work with the standardized variables.

$$\mathbf{z}_j = \begin{bmatrix} \dfrac{(x_{j1} - \bar{x}_1)}{\sqrt{s_{11}}} \\ \dfrac{(x_{j2} - \bar{x}_2)}{\sqrt{s_{22}}} \\ \vdots \\ \dfrac{(x_{jp} - \bar{x}_p)}{\sqrt{s_{pp}}} \end{bmatrix}, \quad j = 1,2, \ldots, n$$

This sample covariance matrix is the sample correlation matrix **R** of the observations $\mathbf{x}_1, \mathbf{x}_2, \ldots, \mathbf{x}_n$, Standardization avoids the problems of having one variable with large variance unduly influencing the determination of factor loadings. The sample covariance matrix **S** or the sample correlation matrix **R** is known as principal component solution. The principal component solution (Richard A. Johnson, 1992) was described. The principal component factor analysis of the sample covariance matrix **S** is specified in terms of its eigenvalue – eigenvector pairs $(\hat{\lambda}_1, \hat{e}_1), (\hat{\lambda}_2, \hat{e}_2), (\hat{\lambda}_3, \hat{e}_3), \ldots, (\hat{\lambda}_p, \hat{e}_p)$ where . $\hat{\lambda}_1 \geq \hat{\lambda}_2 \geq \hat{\lambda}_3 \geq \cdots \geq \hat{\lambda}_p$. Let m < p be the number of common factors. Then the matrix of estimated factor loading $(\tilde{\ell}_{ij})$ is given …

$$\tilde{\mathbf{L}} = \left[\sqrt{\hat{\lambda}_1}\,\hat{\mathbf{e}}_1 \;\middle|\; \sqrt{\hat{\lambda}_2}\,\hat{\mathbf{e}}_2 \;\middle|\; \sqrt{\hat{\lambda}_3}\,\hat{\mathbf{e}}_3 \;\middle|\; \cdots \;\middle|\; \sqrt{\hat{\lambda}_p}\,\hat{\mathbf{e}}_p \right]$$

The estimated specific variance are provided by the diagonal elements of the matrix S - $\tilde{L}\tilde{L}'$.

$$\tilde{\Psi} = \begin{bmatrix} \widetilde{\psi_1} & 0 & \cdots & 0 \\ 0 & \widetilde{\psi_2} & \cdots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \cdots & \widetilde{\psi_p} \end{bmatrix} \quad \text{with} \quad \widetilde{\psi_i} = s_{ij} - \sum_{j=1}^{m} \widetilde{\ell_{ij}^2}$$

Communalities are estimated as

$$\tilde{h} = \tilde{\ell}_{i1}^2 + \tilde{\ell}_{i2}^2 + \cdots + \tilde{\ell}_{im}^2 \tag{3.6}$$

The principal component factor analysis of the sample correlation matrix is obtained by starting with **R** in place of **S**.

3.3.3 Residual Matrix

If the number of common factors is not determined by a priori considerations based on the estimated eigenvalues in much the same manner as with principal component, consider the residual matrix

$$\mathbf{S} - (\tilde{\mathbf{L}}\tilde{\mathbf{L}}' + \tilde{\mathbf{\Psi}}) \tag{3.7}$$

resulting from the approximation of S by the principal component solution. The diagonal elements are zero. Sum of squared entries of

$$(S - (\tilde{\mathbf{L}}\tilde{\mathbf{L}}' + \tilde{\mathbf{\Psi}})) \leq \hat{\lambda}_{m-1}^2 + \cdots + \hat{\lambda}_p^2$$

The contributions of the first few factors to the sample variances of the variables should be large. The contribution to the sample variance s_{ii} from the first common factor is $\widetilde{\ell_{i1}^2}$. The contribution to the total sample variance, $s_{11} + s_{22} + \cdots + s_{pp} = \text{tr}(\mathbf{S})$, from the first common factor is then

$$\tilde{\ell}_{11}^2 + \tilde{\ell}_{21}^2 + \cdots + \tilde{\ell}_{p1}^2 = (\sqrt{\hat{\lambda}_1}\,\hat{\mathbf{e}}_1)'(\sqrt{\hat{\lambda}_1}\,\hat{\mathbf{e}}_1) = \hat{\lambda}_1$$

since the eigenvector $\hat{e_1}$ has unit length. In general

$$\begin{pmatrix} Proportion\ of\ total \\ sample\ variance \\ due\ to\ jth\ factor \end{pmatrix}$$

$$= \begin{cases} \dfrac{\hat{\lambda}_j}{s_{11} + s_{11} + s_{11} + \ ... \ + s_{pp}} & \text{for a factor analysis of } \mathbf{S} \\ \dfrac{\hat{\lambda}_j}{p} & \text{for a factor analysis of } \mathbf{R} \end{cases}$$

Frequently used as a heuristic device for determining the appropriate number of common factors. The number of common factors retained in the model is increased until a "suitable proportion" of the total sample variance has been explained.

3.3.4 Factor Rotation

The factor rotation (Richard A. Johnson, 1992) was described. All factor loadings obtained from the initial loadings by a orthogonal transformation have the same ability to reproduce the covariance matrix. An orthogonal transformation of the factor loadings as well as the implied orthogonal transformation of the factors is called factor rotation. If $\hat{L}$ if the p x m matrix of estimated factor loadings obtained by any method; then

$\hat{\mathbf{L}}^* = \hat{\mathbf{L}}\mathbf{T}$, where $\mathbf{T}\mathbf{T}' = \mathbf{T}'\mathbf{T} = \mathbf{I}$ is a $p \times$ m matrix of rotated loadings.

The estimated covariance matrix remains unchanged, since

$$\hat{\mathbf{L}}\hat{\mathbf{L}}' + \hat{\Psi} = \hat{\mathbf{L}}\mathbf{T}\mathbf{T}'\hat{\mathbf{L}} + \hat{\mathbf{\Psi}} = \hat{\mathbf{L}}^* \ \hat{\mathbf{L}}^{*'} + \hat{\mathbf{\Psi}}$$

Equation indicates that the residual matrix, $\mathbf{S}_n - \hat{\mathbf{L}}\hat{\mathbf{L}}' - \hat{\mathbf{\Psi}} = \mathbf{S}_n - \hat{\mathbf{L}}^* \hat{\mathbf{L}}^{*'} + \hat{\mathbf{\Psi}}$ remains unchanged. The specific variance $\widehat{\psi_i}$ and hence the communalities $\hat{h}_i^2$, are unaltered. Thus, from a mathematical viewpoint, it is immaterial whether $\hat{\mathbf{L}}$ or $\hat{\mathbf{L}}^*$ is obtained.

The original loading may not be readily interpretable. It is usual practice to rotate until a simpler structure is achieved. Each variable loads-highly on a single factor and has small to moderate loadings on the remaining factors. It is possible to get this simple structure and the rotated loading for the decathlon data provide a clear pattern. Graphical and analytical methods should be concentrated for determining an orthogonal rotation to a simple structure.

Oblique Rotation

The oblique rotation (Richard A. Johnson, 1992) was described. Orthogonal rotations are appropriate for a factor model in which the common factors are assumed to be independent. Many investigators in social sciences consider oblique (nonorthogonal) rotations, as well as orthogonal rotations. Oblique rotation is frequently a useful aid in factor analysis.

If the *m* common factors as coordinate axes, the point with the *m* coordinates $(\hat{\ell}_{i1,}\hat{\ell}_{i2,}\hat{\ell}_{i3,},\dots,\hat{\ell}_{im})$ represents the position of the i^{th} variable in the factor space. Assuming that the variables are grouped into non overlapping clusters, an orthogonal rotation to a simple structure corresponds to a rigid rotation of the coordinate axes such that the axes, after rotation, pass as Frequent to the clusters as possible. An oblique rotation to a simple corresponds to a nonrigid rotation of the coordinate system such that the rotated axes (no longer perpendicular) pass (nearly) through the clusters. An oblique rotation seeks to express each variable in terms of a minimum number of factors preferably, a single factor.

Varimax Rotation

The varimax rotation (Richard A. Johnson, 1992) was described. When principal components analysis and factor analysis identify the underlying factors, they do so using a greedy algorithm. They begin by identifying the first component in such a way that it explains as much variance as possible, and proceed by identifying the next component in such a way that it explains the maximum possible amount of the remaining variance and so on.

In statistics, a varimax rotation is used to simplify the expression of a particular sub-space in terms of judging a few major items each. The actual coordinate system is unchanged, it is the orthogonal basis that is being rotated to align with those coordinates. The sub-space found with principal component analysis or factor analysis is expressed as a dense basis with many non-zero weights which makes it hard to interpret. Varimax is so called because it maximizes the sum of the variances of the squared loadings (squared correlations between variables and factors). In addition to, varimax rotation, where the factor axes are kept at right angles to each other, is most frequently chosen. Ordinarily, rotation reduces the number of complex variables and

improves interpretation. Almost all applications of principal component analysis and factor analysis in survey research apply the varimax rotation method.

3.3.5 Velicer's Minimum Average Partial (MAP) Test for Verifying Analysis

The MAP method (Velicer, 1976) was developed in the context of principal component analysis and is based on the matrix of partial correlations. Each component is partialed out of the correlation matrix and the average of the squared partial correlations is computed. The number of factors to retain is determined by the point where the minimum average of the squared partial correlations is obtained. The rationale of this procedure can be described as follows: as common variance is partialed out of the correlation matrix for each successive component, the MAP criterion will keep on decreasing. At the point where the common variance has been removed, extracting additional components will result in unique variance being partialed out, and the MAP criterion will begin to rise. The MAP procedure, therefore, provides an unequivocal stopping point for the number of factors by separating the common and unique variance and retaining only those factors that consist primarily of common variance. The MAP procedure begins with the computation of the partial covariance matrix,

$$\mathrm{C}_m = \mathbf{R} - \mathrm{A}_m\mathrm{A}_m^T \tag{3.8}$$

C_m = The partial covariance Matrix that results from partialling out the first *m* components from **R**

R = The correlation matrix

A_m = The component loading matrix for components 1 to m.

Next, the partial correlation matrix is obtained

$$R_m^* = \mathrm{D}^{-\frac{1}{2}}\,\mathrm{C}_m\mathrm{D}^{-\frac{1}{2}} \tag{3.9}$$

R_m^* = The partial correlation matrix

D = diag ($\mathrm{C_m}$)

The MAP criterion is then obtained by averaging the squares of the partial correlations contained in R_m^* .

$$\mathrm{MAP}_m = \sum_{i=1}^{p}\sum_{\substack{j=1\\ i\neq j}}^{p}\frac{r_{ijm}^{*2}}{p(p-1)} \tag{3.10}$$

where *p* is the number of variables

This procedure is repeated until $p - 1$ components have been partialled out of **R** (partialling out p components would result in a null partial covariance matrix). Finally, the first factor by averaging the squares of the correlations contained in **R**:

$$\mathrm{MAP}_0 = \sum_{i=1}^{p} \sum_{\substack{j=1 \\ i \neq j}}^{p} \frac{r_{ij}^{*2}}{p(p-1)} \tag{3.11}$$

$\mathrm{MAP}_0 < \mathrm{MAP}_1$, no factors should be extracted

MAP method with continuous variables had been evaluated in some of the most relevant factor retention. Zwick and Velicer (1982) carried out the first systematic examination of this procedure and found it to be more accurate than other stopping rules such as the eigenvalue greater than 1 rule and Bartlett's significance test .

Their results also showed that it was affected primarily by the size of the factor loadings and had a tendency to under factor with a small number of variables per factor. The same tendency to under factor with low factor loadings and a small number of variables per factor was found in this study, replicating previous results.

CHAPTER IV
RESULTS AND FINDINGS

In this chapter, it has been presenting the analysis of the factors influencing in Myanmar Entrepreneurship Ecosystem based on results of data collected from the sample. The descriptive data analysis, factor analysis, reliability test, and verification of the key main factors are worked out in accordance with the theories.

4.1 Demographic and Socioeconomic Characteristics of Myanmar Entrepreneurs

4.1.1 Gender of Entrepreneurs

Gender of entrepreneurs is shown in Table (4.1) and Figure (4.1). Out of 260 respondents, 140 (54%) were male and 120 (46%) were female respectively.

Table (4.1) Percent Distribution of Gender of Entrepreneurs

Gender	Number of Entrepreneurs	Percent (%)
Male	140	54%
Female	120	46%
Total	**260**	**100%**

Source: Entrepreneurship Survey Data, 2019

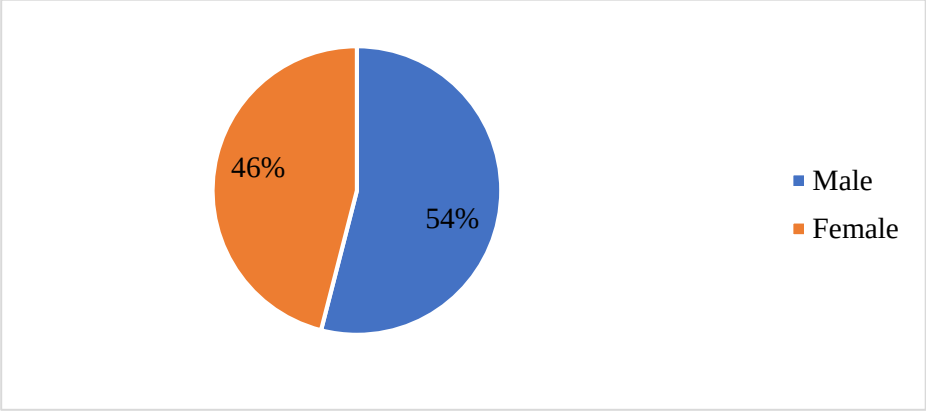


Figure (4.1) Percent Distribution of Entrepreneurs by Gender

4.1.2 Age of Entrepreneurs

Age of entrepreneurs was classified in 7 groups such as 20 to 24 years, 25 to 29 years, 30 to 34 years, 35 to 39 years, 40 to 44 years, 45 to 55 years and above 55 years.

Table (4.2) Percent Distribution of Entrepreneurs by Age

Age (Years)	Number of Entrepreneurs	Percent (%)
20-24	16	6.0%
25-29	50	19.1%
30-34	52	19.9%
35-39	42	16.3%
40-44	43	16.7%
45-55	43	16.7%
Over 55	14	5.3%
Total	**260**	**100%**

Source: Entrepreneurship Survey Data, 2019

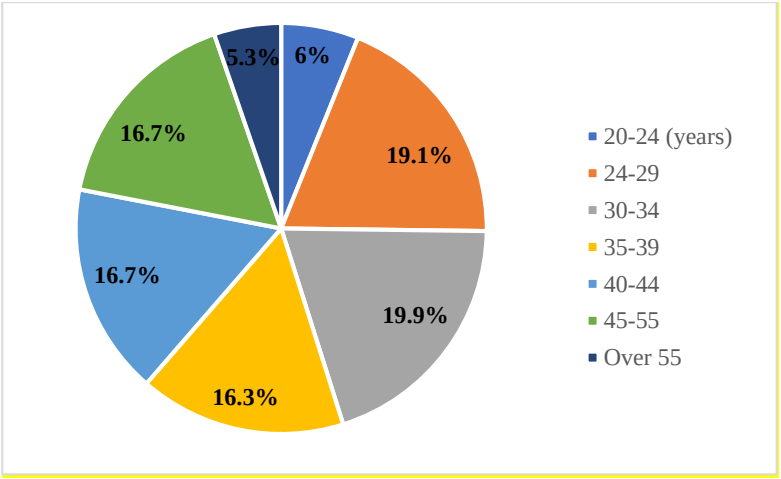


Figure (4.2) Percent Distribution of Entrepreneurs by Age

According to Table (4.2) and Figure (4.2), the most entrepreneurs (19.9%) were age group of 30-34 years, followed by age groups 25-29 years (19.1%), 40-44 years and 45-55 years (16.7%), 35-39 years (16.3%), 20-24 years (6%) and over 55 years (5.3%).

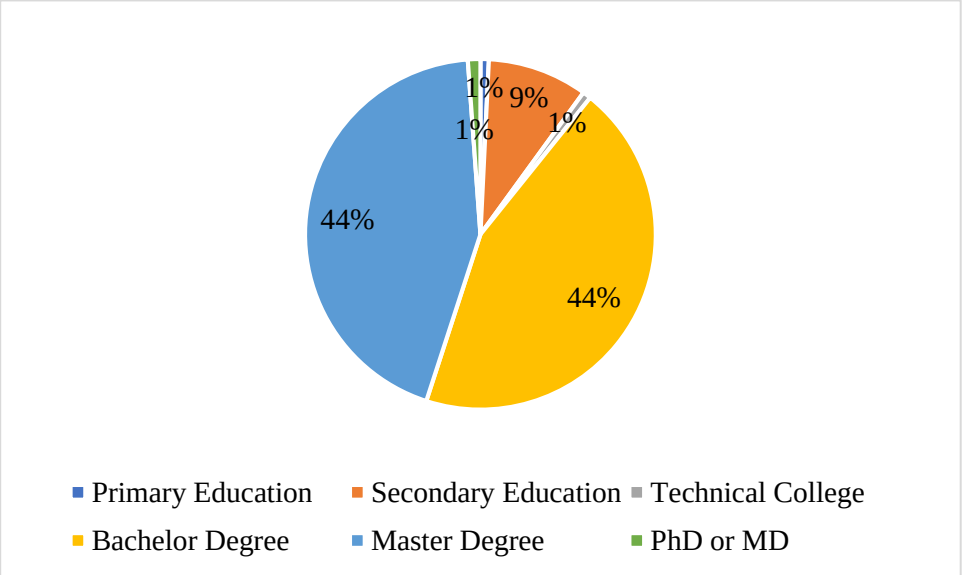
4.1.3 Educational Level of Entrepreneurs

The entrepreneurs' educational level was categorized into six groups such as primary education, secondary education, technical college, bachelor, master degree, Ph.D or medical doctorate are shown in Table (4.3).

Table (4.3) Distribution of Educational Level of Entrepreneurs

Educational Level	Number of Entrepreneurs	Percent (%)
Primary Education	2	1%
Secondary Education	24	9%
Technical College	2	1%
Bachelor Degree	115	44%
Master Degree	114	44%
PhD or MD	3	1%
Total	**260**	**100%**

Source: Entrepreneurship Survey Data, 2019



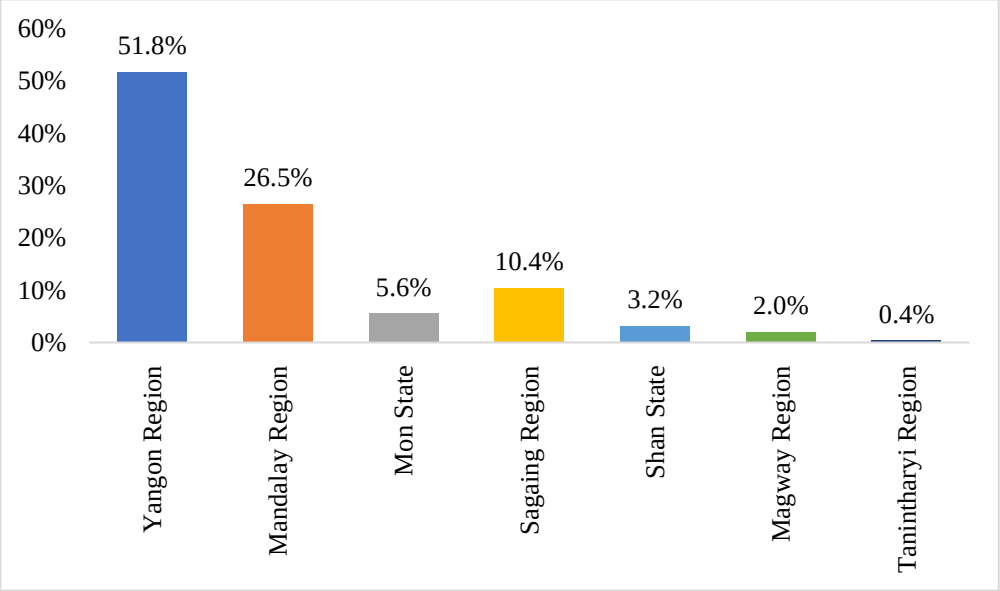
Source: Entrepreneurship Survey Data, 2019

Figure (4.3) Distribution of Educational Level of Entrepreneurs

According to Table (4.3) and Figure (4.3), the most entrepreneurs (44%) were achieved Bachelor and Master degrees, followed by secondary education (9%), Ph.D or Medical Doctorate (1%) and primary education (1%).

4.1.4 Geographical Distribution of Entrepreneurs

The sample also has reasonable geographic representation in major states and regions of Myanmar as show in Figure (4.4).



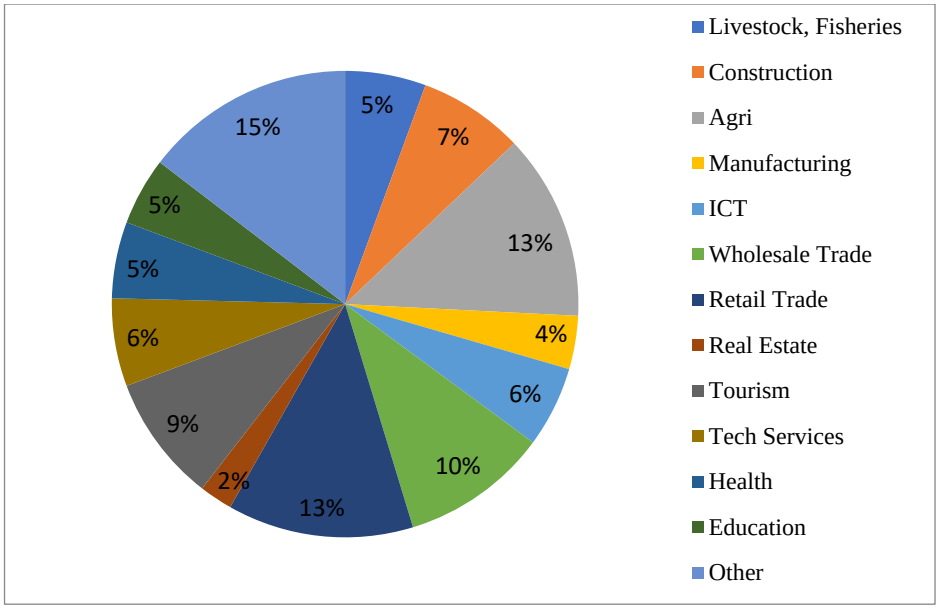
Source: Entrepreneurship Survey Data, 2019

Figure (4.4) Distribution of Entrepreneurs' Geographical Status

The survey shows that 51.8% of entrepreneurs lived in Yangon Region, 26.5% entrepreneurs lived in Mandalay Region and the rest are 20.6% entrepreneurs in total from different states and regions across country.

4.1.5 Business Sectors of Entrepreneurs

The sectors of business are categorized into 13 groups such as livestock and fisheries, construction, agriculture, manufacturing, ICT, wholesale trade, retail trade, real estate, tourism, technical services, health, education and others are shown in Figure (4.5).



Source: Entrepreneurship Survey Data, 2019

Figure (4.5) Distribution of Entrepreneurs by Business Sector

Almost all respondents are from small- or medium-sized companies in wide range of business sectors. Out of 13 categories, the entrepreneurs working in agribusiness and retail trade are with high contribution of 13% each while the lowest sector shows in real estate by 2%. The other 15% of entrepreneurs are working in unimportant sectors of business.

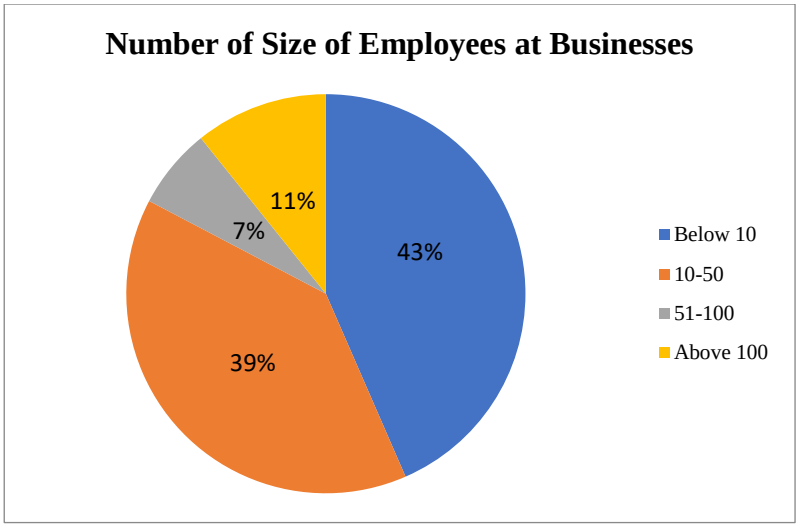
4.1.6 Employment Status in Entrepreneurs' Businesses

The size of employees at businesses are classified as below 10 employees, 10-50 employees, 51-100 employees and above 100 employees. The number of full-time paid employees working at the entrepreneurs' businesses are shown in Table 4.4 and Figure (4.6).

Table (4.4) Employees at Entrepreneurs' Businesses

Size of Employee	Number of Business	Percent (%)
Below 10	113	43%
10-50	102	39%
51-100	17	7%
Above 100	28	11%
Total	**260**	**100%**

Source: Entrepreneurship Survey Data, 2019



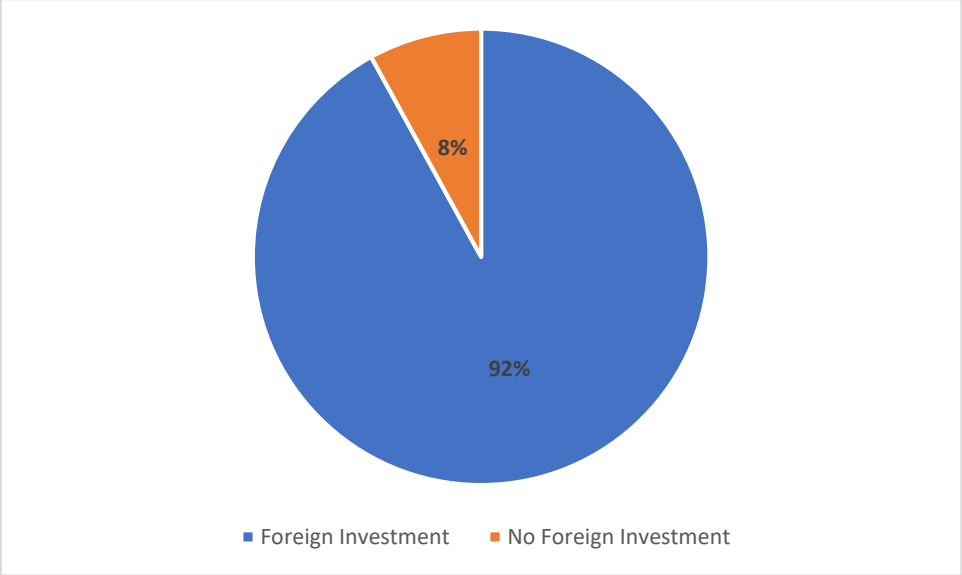
Source: Entrepreneurship Survey Data, 2019

Figure (4.6) Distribution of Size of Employees at Businesses

According to the results of Table 4.4 and Figure 4.6, 43% of businesses have below 10 employees, 39% of businesses have 10-50 employees, 11% of businesses have above 100 employees and 7% of businesses have 51-100 employees. It is found that most of the entrepreneurs in Myanmar are micro and small business owners.

4.1.7 Foreign Investment in Entrepreneurial Business

The franchise, direct investment or joint venture with foreign investment contribution was shown in Figure (4.7).



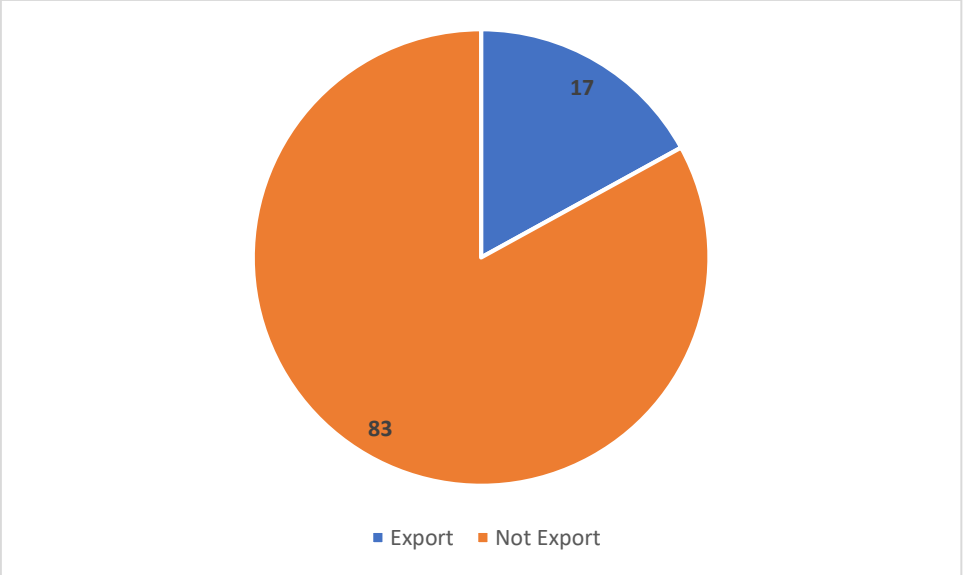
Source: Entrepreneurship Survey Data, 2019

Figure (4.7) Distribution of Foreign Investment

According to the figure, it showed that 8% of the entrepreneurs received the foreign investment, or acting as a branch office of a multi-national company and the other 92% do not receive Foreign Investment.

4.1.8 Export Business of Entrepreneurs

Export businesses of entrepreneurs are described in Figure (4.8). It can be seen that 17% of the businesses are doing export of their products and/or services. The rest 83% of the businesses claimed that they never export to other countries.



Source: Entrepreneurship Survey Data, 2019

Figure (4.8) Distribution of Export Business

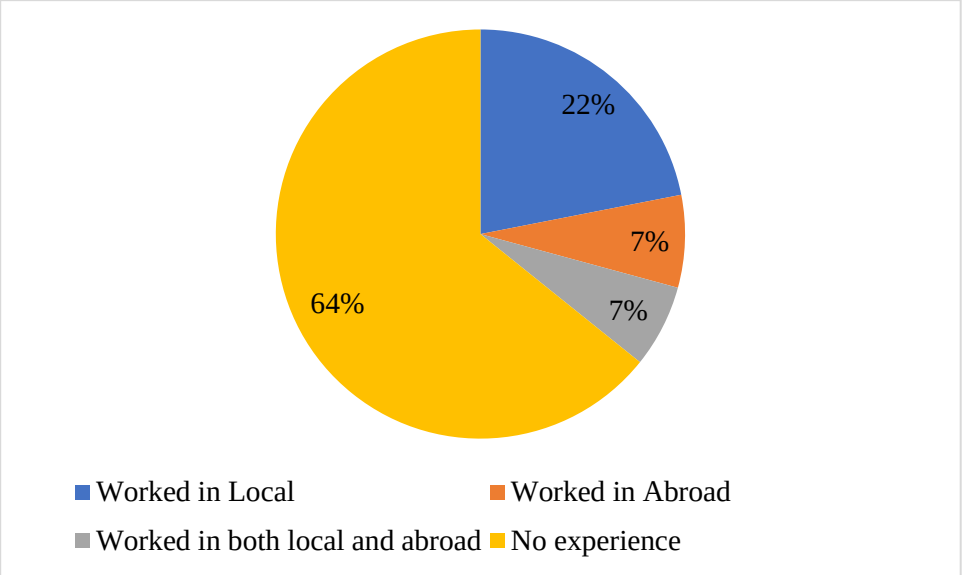
4.1.9 Working Experience of Entrepreneurs

Entrepreneur's working experiences are described in Table (4.5) and Figure (4.9). Working experience are classified as worked in local company, worked in foreign company, worked in local and foreign company and no experience. It can be seen that 22% of the entrepreneurs had experience of working at the local company in Myanmar whilst 7% of them were in abroad. Nearly 7% of the entrepreneurs answered that they had worked in both local and in foreign companies. Nevertheless, the majority of the entrepreneurs 64% did not have working experience before they run their own businesses.

Table (4.5) Percent Distribution of Working Experience of Entrepreneurs

Working Experience	Number of Entrepreneurs	Percent (%)
Worked in Local	57	22%
Worked in Abroad	19	7%
Worked in both local and abroad	17	7%
No experience	167	64%
Total	**260**	**100%**

Source: Entrepreneurship Survey Data, 2019



Source: Entrepreneurship Survey Data, 2019

Figure (4.9) Working Experience of Entrepreneurs

4.1.10 Business Registration Status of Entrepreneurs

The business registration status of the entrepreneurs is shown in Table (4.6). It is found that 44.7% of the businesses have company registration at Directorate of Investment and Company Administration (DICA). The others 42.3% of the businesses are running under the municipal and shop license only. The rest 4.1% of businesses are not registered at anywhere yet.

Table (4.6) Business Registration Status of Entrepreneurs

Types of Business Registration	Number of Respondents	Percent (%)
With DICA	116	44.70%
Locally (Municipal)	33	12.60%
Shop License	77	29.70%
Not Registered as a Company	11	4.10%
Other (Please Specify)	23	8.90%
Total	**260**	**100%**

Source: Entrepreneurship Survey Data, 2019

4.2 Understanding the Status of Strategic Pillars of Entrepreneurship Ecosystem in Myanmar

The approach is based on a good understanding of what enables entrepreneurs to start and grow their enterprises. This survey was built on six strategic pillars that create a dynamic ecosystem to enable growth entrepreneurship. This widely used framework was developed by Professor Daniel Isenberg[1] of Babson College in the United States. The ecosystem's performance is measured by tracking the number of startups, the number of high-growth firms, the levels of high-impact entrepreneurs, the number of serial entrepreneurs, data on the aspirational values of young people, and investments in the entrepreneurship sector within the sample of MYEA members.

It is now important to assess the status of each of the six pillars in Myanmar's entrepreneurship ecosystem and to consider specific initiatives and policies that can strengthen the ecosystem. The six pillars are representing factors to be carried out in this survey. The environment in Myanmar for each strategic pillar of a dynamic entrepreneurship ecosystem is assessed below.

4.2.1 Entrepreneurship Ecosystem Pillar 1: Access to Finance Factor

Table (4.7) shows that the sources of investment that the Myanmar entrepreneurs initiated their businesses. Myanmar entrepreneurs acquired the

[1] **Daniel Isenberg** is a **Professor** of Entrepreneurship Practice at Babson College Executive Education where he established the Babson Entrepreneurship Ecosystem Project. He is the author of the recent best seller "Worthless, Impossible and Stupid: How Contrarian Entrepreneurs Create and Capture Extraordinary Value".

investment to start their businesses initially. The 68% of entrepreneurs answered that personal saving or family saving was essential for their sources of investment while 31% thought that finance from relatives or friends were significant. Others responded that borrowing from banks or equity investments from an institution were insignificant as 29% and 30% respectively.

Table (4.7) Sources of Investment

Sources of Investment		Responded "essential"	Responded "very important"	Responded "significant"	Responded "insignificant"	Responded "no opinion"
Personal or family savings	Number	177	50	24	4	4
	Percentage	68%	19%	9%	2%	2%
Finance from relatives/friends	Number	33	54	79	68	25
	Percentage	13%	21%	31%	26%	10%
Borrowing from banks	Number	48	50	59	74	28
	Percentage	19%	19%	23%	29%	11%
Borrowing from non-banks	Number	17	44	85	79	35
	Percentage	7%	17%	33%	30%	13%
Equity Investment from non-Friend or Family	Number	25	51	73	75	36
	Percentage	10%	19%	28%	29%	14%
Equity Investment from an institution	Number	22	38	59	79	62
	Percentage	8%	15%	23%	30%	24%

Source: Entrepreneurship Survey Data, 2019

4.2.2 Entrepreneurship Ecosystem Pillar 2: Access to Market Factor

One important factor of access to market is highly competitiveness. Table 4.8 shows that the entrepreneurs replied their attributes of product/ service or technology innovation were essential with highest percentage of 54% and 37% respectively. Business culture and efficient processes or logistics were very important by 37% and 31%, although unique market niche was either essential or significant by 33%. Aggressive marketing and selling were in the essential role, whilst distribution innovation and special agreement with suppliers were very important as 31% and 31% each.

Table (4.8) Important Attributes of Highly Competitiveness

Attributes of Highly Competitiveness		Responded "essential"	Responded "very important"	Responded "significant"	Responded "insignificant"	Responded "no opinion"
Product/service innovation	Number	140	65	40	5	10
	Percentage	54%	25%	16%	2%	4%
Technology innovation	Number	96	72	62	12	19
	Percentage	37%	28%	24%	4%	7%
Business culture	Number	67	95	78	15	5
	Percentage	26%	37%	30%	6%	2%
Efficient processes	Number	74	80	73	13	19
	Percentage	29%	31%	28%	5%	7%
Unique market niche	Number	86	70	85	11	7
	Percentage	33%	27%	33%	4%	3%
Aggressive marketing	Number	77	74	76	22	11
	Percentage	30%	28%	29%	8%	4%
Distribution innovation	Number	66	82	69	20	23
	Percentage	25%	31%	26%	8%	9%
Special agreements with suppliers or distributors	Number	63	83	71	28	15
	Percentage	24%	32%	27%	11%	6%

Source: Entrepreneurship Survey Data, 2019

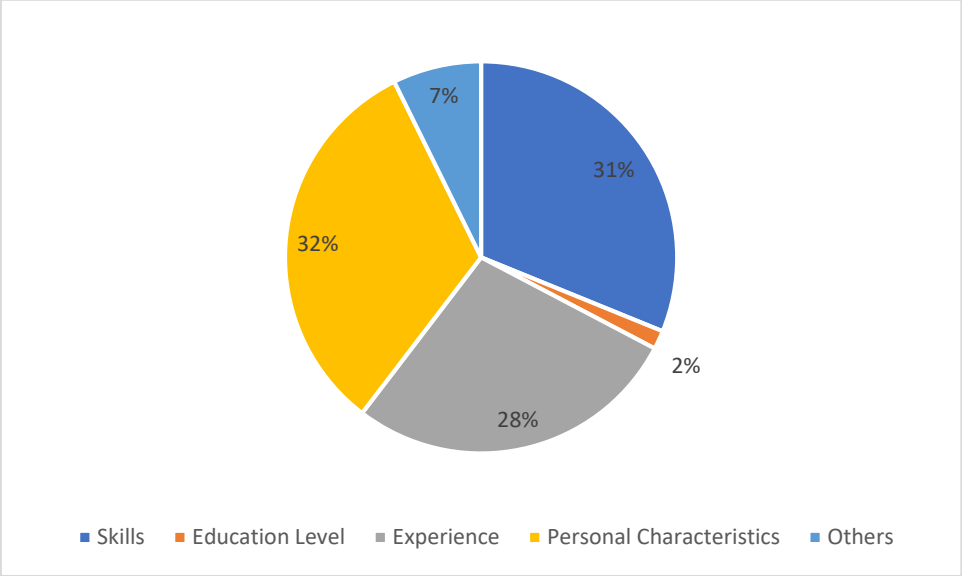
4.2.3 Entrepreneurship Ecosystem Pillar 3: Human Capital Factor

While entrepreneurs make the decision of hiring their employees, their most important criteria were employee's personal characteristics by 32%, the skill follows in second important attribute at 31% and the previous experience in related job and industry was 28%. Surprisingly, the employees' educational level and other factors were not the priority for hiring decision as shown in Table (4.9) and Figure (4.10).

Table (4.9) Ranking Attributes of Hiring Employees

Attribute	No. of Respondents	Percent (%)
Skills	81	31%
Education Level	4	2%
Experience	72	28%
Personal Characteristics	84	32%
Others	19	7%
Total	**260**	**100%**

Source: Entrepreneurship Survey Data, 2019



Source: Entrepreneurship Survey Data, 2019

Figure (4.10) Ranking Attributes of Hiring Employees

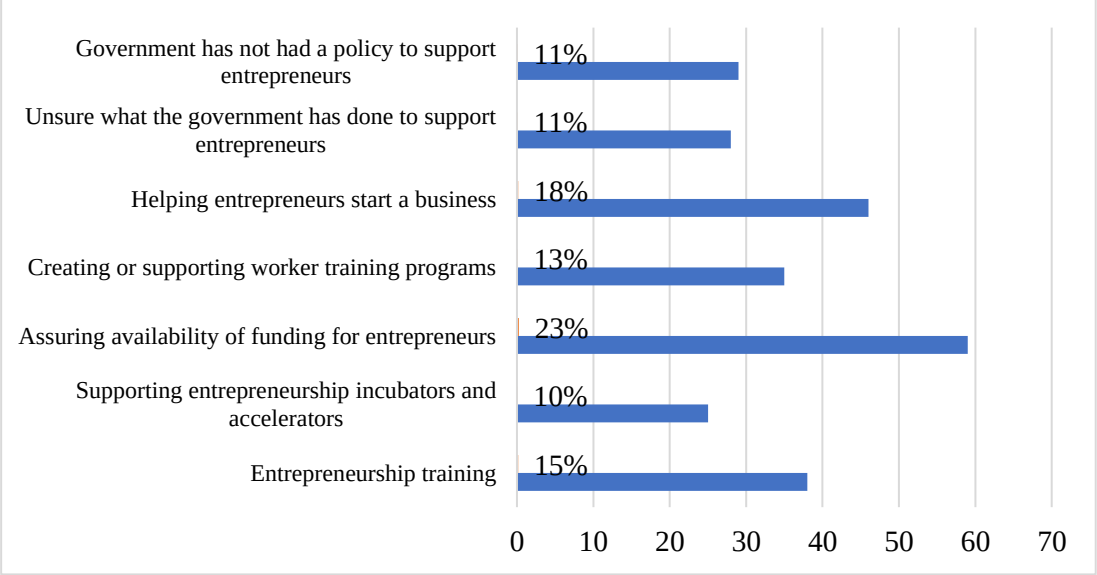
4.2.4 Entrepreneurship Ecosystem Pillar 4: Government Policy Factor

Government policies in relation with entrepreneurship such as tax and labor laws, education, dialogues and recognition play in an important role of the development of entrepreneurship ecosystem. The respondents thought that the most important elements of government policies for entrepreneurs were assuring availability of funding for entrepreneurs, helping entrepreneurs start a business, and providing entrepreneurship trainings at 23%, 18% and 15% respectively in Table (4.10) and Figure (4.11).

Table (4.10) Important Elements of Government Policy

Perception about elements of government policy	Number of Respondents	Percent (%)
Entrepreneurship training	38	15%
Supporting entrepreneurship incubators and accelerators	25	10%
Assuring availability of funding for entrepreneurs	59	23%
Creating or supporting worker training programs	35	13%
Helping entrepreneurs start a business	46	18%
Unsure what the government has done to support entrepreneurs	28	11%
Government has not had a policy to support entrepreneurs	29	11%
Total	**260**	**100%**

Source: Entrepreneurship Survey Data, 2019



Source: Entrepreneurship Survey Data, 2019

Figure (4.11) Perception on Government Policy

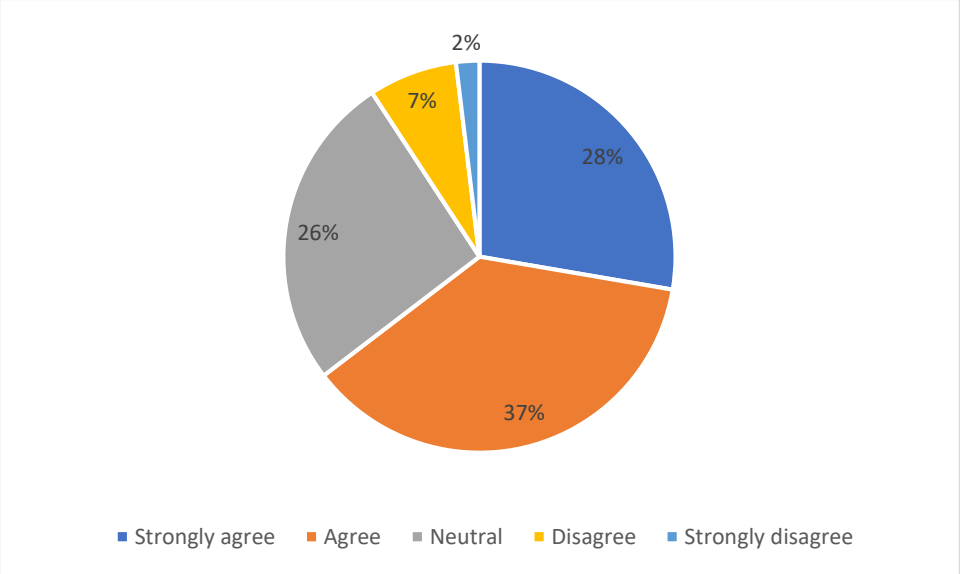
4.2.5 Entrepreneurship Ecosystem Pillar 5: Entrepreneurship Culture Factor

Individuals working within a political and civil society environment that provides encouragement and support for entrepreneurship are much more likely to start new businesses and take the investment and reputational risks associated with

innovation. The entrepreneurship survey and interviews conducted for this white paper reveal that many entrepreneurs receive emotional and financial support from their families and each other. Citizens of Myanmar have high regard for entrepreneurship and risk-taking according to the interpretation of Table (4.11) and Figure (4.12) for being asked about their agreement on social acceptance of entrepreneurs.

Table (4.11) Social Acceptance of Entrepreneurs

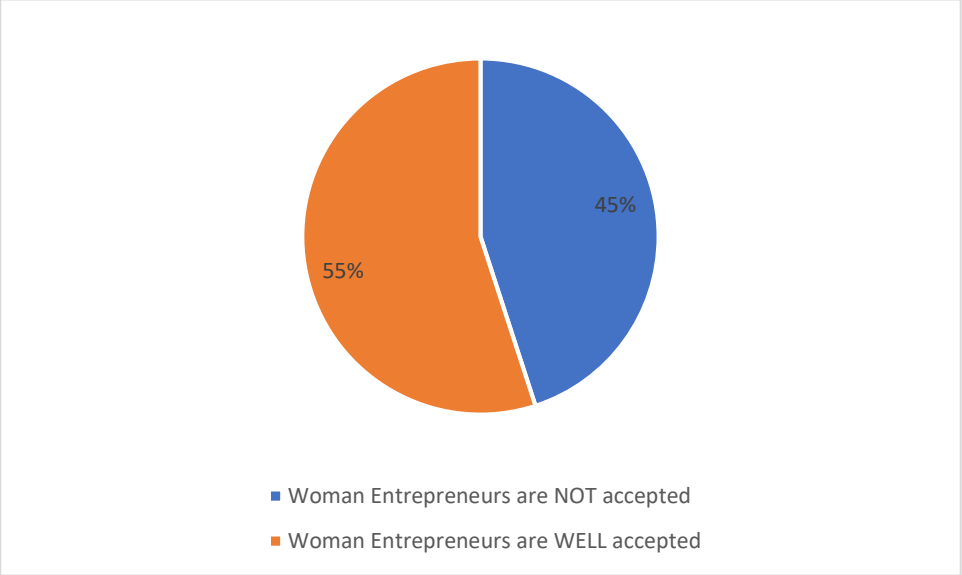
Perception about social acceptance of entrepreneurs	Number of Respondents	Percent (%)
Strongly agree	72	27.80%
Agree	96	36.80%
Neutral	68	26.10%
Disagree	19	7.30%
Strongly disagree	5	2.10%
Total	**260**	**100%**



Source: Entrepreneurship Survey Data, 2019

Figure (4.12) High Regards of Community and High Risk-taking

In Myanmar, it is not more difficult for a woman than a man to start and grow an entrepreneurial business as per the answers in Figure (4.13).

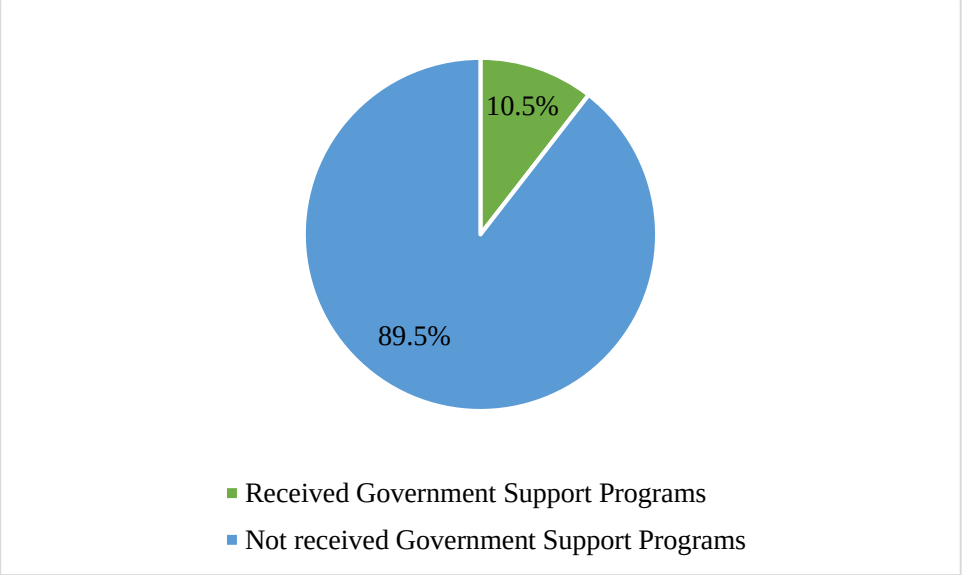


Source: Entrepreneurship Survey Data, 2019

Figure (4.13) Perception on Women Entrepreneurs

4.2.6 Entrepreneurship Ecosystem Pillar 6: Support and Network Factor

Countries that achieve high rates of entrepreneurship do so by having a rich ecosystem of supporting actors and institutions in which the participants are highly connected and interactive. These include networks of startup weekends, entrepreneurship training programs, entrepreneur mentors, angel investors, incubators, accelerators, a rich array of financial support institutions, accountants, consultants and peer-to-peer networks, and links to education and training providers. These networks and support organizations provide encouragement, discipline, seed resources, leadership and management skills, advice, and encouragement. Absent in Myanmar until recently as per the highly negative responses of 89.5% in Figure (4.14), such organizations are beginning to emerge, most noticeably in Yangon but also gradually in other commercially important cities. But Myanmar is only at the start of the process; there is still a long way to go to develop a deep and effective ecosystem of supporting organizations, events, and networks. Myanmar needs to catch up with the more substantial and sophisticated ecosystems of actors that are already seen in a number of countries in the region.



Source: Entrepreneurship Survey Data, 2019

Figure (4.14) Acquisition of Government Support Program

4.3 Factor Analysis

To identify the factors which influence the Myanmar Entrepreneurship Ecosystem, factor analysis approach has been applied. In this study, the principal components method was used to generate the initial solution with 48 variables which are related with six sectors of the strategic pillars which are meant to impact on entrepreneurs among MYEA members. All these sectors finally come out with factors group related to entrepreneurs' answers. The variables are grouped into 6 because the questionnaire is based on the concept of 6 pillars of entrepreneurship ecosystem. The 6 pillars are named as Access to Finance (AF), Access to Market (AM), Access to Technology (AT), Entrepreneurship Culture (EC), Government Support (GS) and Human Resource (HR). Each pillar has 8 questions or 8 variables so that each pillar is numbered from 1 to 8 respectively.

Reliability Analysis to the Impact of Entrepreneurship Ecosystem

This reliability analysis was referred to measure for the accuracy and consistency of collected data. This method was divided into two broad categories such as external consistency procedures and internal consistency procedures. The reliability statistics results were described in Table (4.12).

Table (4.12) Results of Reliability Analysis

Cronbach's Alpha	No. of Items
.903	48

Source: Entrepreneurship Survey Data, 2019

Cronbach's alpha reliability coefficient of overall items calculated as 0.903 which was greater than 0.7, high level of internal consistency for the overall items. The Scale Statistics are at the values of Mean 148.15, Variance 515.366, and Standard Deviation 22.702 for Number of Items 48 as shown in Table (4.13).

Table (4.13) Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
148.15	515.366	22.702	48

Source: Entrepreneurship Survey Data, 2019

KMO and Bartlett's Test

Bartlett Test of Sphericity test sampling adequacy values were 0.855 and yielded a value of 5290.84 and an associated degree of significance smaller than 0.001. KMO measure of sampling adequacy was 0.855. This means that the collected sample was adequate and the correlation matrix had significant correlations among these collected questions in Table (4.14).

Table (4.14) Kaiser Meyer Olkin (KMO) and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.855
Bartlett's Test of Sphericity	Approx. Chi-Square	5290.84
	Df	1128
	Sig.	0.000

Source: Entrepreneurship Survey Data, 2019

Factor Analysis (First Run)

Table (4.15) is Factor analysis which used initial solution statistics and KMO and Bartlett's test for sphericity of correlation matrix and also selected Principal components method and extract based on eigenvalues greater than 1. Then selected

varimax rotation method and selected coefficient absolute value are 0.33. This is suppressing of factors loading values less than 0.33.

In factor analysis, output of total variance was presented to extract associated eigenvalues with 13 common factors which was eigenvalue greater than 1. The percentage of total variance was described 26.50%, 6.39%, 6.21%, 4.83%, 3.59%, 3.31%, 3.19%, 3.08%, 2.64%, 2.63%, 2.39%, 2.32% and 2.13% respectively.

This was 69.22% of the total variance attributable to 13 components and other 35 components are only about 30.78% of the variance.

Table (4.15) Factor Analysis Results for Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.722	26.504	26.504	12.722	26.504	26.504	8.144	16.966	16.966
2	3.069	6.393	32.897	3.069	6.393	32.897	4.686	9.763	26.729
3	2.980	6.207	39.105	2.980	6.207	39.105	2.693	5.610	32.339
4	2.320	4.834	43.939	2.320	4.834	43.939	2.558	5.330	37.669
5	1.721	3.585	47.524	1.721	3.585	47.524	2.067	4.306	41.975
6	1.590	3.312	50.836	1.590	3.312	50.836	1.880	3.916	45.891
7	1.535	3.198	54.034	1.535	3.198	54.034	1.873	3.903	49.794
8	1.478	3.080	57.114	1.478	3.080	57.114	1.836	3.825	53.619
9	1.266	2.638	59.752	1.266	2.638	59.752	1.807	3.764	57.382
10	1.261	2.627	62.379	1.261	2.627	62.379	1.629	3.393	60.776
11	1.146	2.387	64.766	1.146	2.387	64.766	1.442	3.005	63.780
12	1.116	2.324	67.090	1.116	2.324	67.090	1.375	2.864	66.645
13	1.021	2.127	69.218	1.021	2.127	69.218	1.235	2.573	69.218
14	.941	1.960	71.177						
15	.918	1.912	73.089						
16	.894	1.862	74.952						
17	.810	1.687	76.639						
18	.766	1.597	78.235						
19	.730	1.521	79.757						
20	.691	1.440	81.197						
21	.631	1.316	82.512						
22	.594	1.238	83.750						
23	.564	1.176	84.926						
24	.546	1.138	86.064						
25	.538	1.121	87.185						
26	.513	1.069	88.254						
27	.469	.976	89.231						
28	.430	.896	90.127						
29	.415	.864	90.990						
30	.394	.821	91.811						
31	.364	.759	92.570						
32	.350	.728	93.299						
33	.310	.647	93.945						
34	.303	.631	94.576						
35	.277	.576	95.152						
36	.261	.544	95.697						
37	.243	.506	96.203						
38	.225	.468	96.670						
39	.222	.462	97.133						
40	.214	.445	97.578						
41	.209	.435	98.013						
42	.186	.388	98.401						
43	.164	.341	98.741						
44	.149	.310	99.051						
45	.140	.293	99.344						
46	.120	.250	99.593						
47	.106	.220	99.814						
48	.089	.186	100.000						

Source: Entrepreneurship Survey Data, 2019

Component Matrix

The component matrix presents the 13 components extracted with Principal component analysis method. Variables HR4, GS3, HR1, GS4, AM1, GS1, EC6, EC8, AT3, AM3, AT7, GS2, HR6, HR5, EC1, HR3, HR7, GS5, EC7, AT8, AM8, HR8, AT4, EC2, AT6, GS6 and EC3 are factor 1, variables HR2, AM4, F3, AM7, AF8, and AM2 are factor 2, variables AT5, AF4, and EC4 are factor 3, variable AF6 is factor 4, variables EC5 and AM5 is factor 5 , variable AF5 is factor 6, variable AF1 is factor 7, variable AT2 is factor 8, variable AF7 is factor 9, variable AM6, and AT1 are factor 10, variable GS8 is factor 11, variable GS7 is factor 12 and variable AF2 is factor 13 respectively.

Rotated Component Matrix

In the rotated component matrix presented after 20 iterations rotation converged to using with principal component analysis extraction method and varimax with Kaiser normalization rotation method. The rotation factor structures were shown in the Appendix (III) such as variables GS4, GS3, GS1, GS2, GS5, EC8, EC6, HR4, EC7, HR5, GS6, HR6, AT3, and AM4 are factor 1, variables HR3, AT8, AT7, HR1, HR8, AM3, and AM1 are factor 2, variables EC3, EC2, HR7, EC1, and AM7 are factor 3, variables AT5, AT4, and AT6 are factor 4, variables AF7, AM2, and AF3 are factor 5, variables AF5, and AF4 are factor 6, variables AM5, and AF8 are factor 7, variables GS8, HR2, and EC4 are factor 8, variables AT2, AT1, and EC5 are factor 9, variables AM6, and AM8 are factor 10, variables AF2, and AF1 are factor 11 and variable AF6 is factor 12 and GS7 is factor 13 respectively.

Velicer's Minimum Average Partial (MAP) Test

The determining of MAP test was shown in the following factors focuses on the common variance in a correlation matrix as shown in Table (4.16).

Table (4.16) Velicer's Minimum Average Partial (MAP) Test

Eigenvalues	Components	Squared	Power4
12.722	0	0.0721	0.015
3.0687	1	0.0177	0.0012
2.9796	2	0.0166	0.001
2.3204	3	0.0143	0.0007
1.7209	4	**0.0125**	0.0005
1.5897	5	0.0128	0.0005
1.5349	6	0.013	0.0005
1.4782	7	0.0131	0.0005
1.2663	8	0.0132	0.0005
1.2611	9	0.0137	0.0006
1.1457	10	0.0142	0.0006
1.1157	11	0.0152	0.0007
1.0211	12	0.0162	0.0008
0.9406	13	0.0169	0.001
0.9178	14	0.0178	0.0011
0.8939	15	0.0191	0.0014
0.8098	16	0.0199	0.0016
0.7664	17	0.0215	0.0019
0.7303	18	0.0227	0.002
0.6911	19	0.024	0.0022
0.6314	20	0.0253	0.0024

Source: Entrepreneurship Survey Data, 2019

The smallest average squared partial correlation is **0.0125**

The smallest average 4rth power partial correlation is **0.0005**

The Number of Components According to the Original (1976) MAP Test is **4**

The Number of Components According to the Revised (2000) MAP Test is **4**

According to the Velicer's MAP test, the first section describes the eigenvalues generate from PCA on the 48 variables and also it presents which variables' eigenvalues were greater than 1.

Second section presents the smallest average squared partial correlations was 0.0125, the smallest average 4^{th} power partial correlation is 0.0005 and the number of factors corresponding value was 4. Therefore, MAP test indicated four factors only.

Factor Analysis (Second Run)

According to the MAP test analysis, the majority of different dimension on entrepreneurs have four factors in the study. Therefore, the second run of factor analysis was selected for four factors extract in the factor analysis extraction.

Total Variance Explained

The results of second run total variance explained four factors of initial eigenvalues factors were same in four factors of first run. The percentage of total variance in second run was 26.50%, 6.39%, 6.21% and 4.83% respectively. These factors contribute 43.94% of the total variance. The rest of 44 factors were about 56.06% of the variance only according to Table (4.17).

Table (4.17) Four Factor Structure Output for Total Variance Explained

Compo-nent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.722	26.504	26.504	12.722	26.504	26.504	8.110	16.896	16.896
2	3.069	6.393	32.897	3.069	6.393	32.897	5.921	12.335	29.231
3	2.980	6.207	39.105	2.980	6.207	39.105	3.120	6.500	35.730
4	2.320	4.834	43.939	2.320	4.834	43.939	2.784	5.800	41.531
5	1.721	3.585	47.524						
6	1.590	3.312	50.836						
7	1.535	3.198	54.034						
8	1.478	3.080	57.114						
9	1.266	2.638	59.752						
10	1.261	2.627	62.379						
11	1.146	2.387	64.766						
12	1.116	2.324	67.090						
13	1.021	2.127	69.218						
14	.941	1.960	71.177						
15	.918	1.912	73.089						

Table (4.17) Four Factor Structure Output for Total Variance Explained (Continued)

Compo-nent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
16	.894	1.862	74.952						
17	.810	1.687	76.639						
18	.766	1.597	78.235						
19	.730	1.521	79.757						
20	.691	1.440	81.197						
21	.631	1.316	82.512						
22	.594	1.238	83.750						
23	.564	1.176	84.926						
24	.546	1.138	86.064						
25	.538	1.121	87.185						
26	.513	1.069	88.254						
27	.469	.976	89.231						
28	.430	.896	90.127						
29	.415	.864	90.990						
30	.394	.821	91.811						
31	.364	.759	92.570						
32	.350	.728	93.299						
33	.310	.647	93.945						
34	.303	.631	94.576						
35	.277	.576	95.152						
36	.261	.544	95.697						
37	.243	.506	96.203						
38	.225	.468	96.670						
39	.222	.462	97.133						
40	.214	.445	97.578						
41	.209	.435	98.013						
42	.186	.388	98.401						
43	.164	.341	98.741						
44	.149	.310	99.051						
45	.140	.293	99.344						
46	.120	.250	99.593						
47	.106	.220	99.814						
48	.089	.186	100.000						
Extraction Method: Principal Component Analysis.									

Rotated Component Matrix

The second run, rotated component matrix was presents variables GS4, GS3, GS2, GS1, GS5, EC8, EC6, HR4, EC7, GS6, HR5, AT3, AF1, AM8, and AM6 in factor

1, variables AT8, HR3, HR7, HR1, EC1, AM1, EC2, AM3, AT7, HR6, EC3, AT4, HR8, EC4, and AM5 in factor 2, variables HR2, AM4, AF8, AM7, AT2, AF2, GS8 in factor 3 and variables AF4, AF5, AF3, AF7, AM2, AT5, AT6, and AF6 in factor 4 respectively in Table (4.18).

Table (4.18) Four Factor Structure Output for Rotated Component Matrix

Rotated Component Matrix[a]

	Component			
	1	**2**	**3**	**4**
GS4	0.805			
GS3	0.777			
GS2	0.76			
GS1	0.759			
GS5	0.743			
EC8	0.672			
EC6	0.633	0.351		
HR4	0.62	0.61		
EC7	0.618			
GS6	0.606		0.368	
HR5	0.563	0.374		
AT3	0.515	0.501		
AF1	0.495			
AM8	0.454	0.354		
AM6	0.354			
AT1				
EC5				
AT8		0.69		
HR3		0.688		
HR7		0.676		
HR1	0.454	0.67		

Table (4.18) Four Factor Structure Output for Rotated Component Matrix (Continued)

	Component			
	1	**2**	**3**	**4**
EC1	0.35	0.645		
AM1	0.384	0.636		
EC2		0.635		
AM3	0.39	0.615		
AT7	0.404	0.604		
HR6	0.396	0.54		
EC3		0.534		
AT4		0.531		0.404
HR8		0.446		
EC4		0.421		
AM5		0.331		
GS7				
HR2			0.69	
AM4	-0.362		0.611	
AF8			0.597	
AM7			0.505	
AT2			0.484	
AF2			0.35	
GS8			0.332	
AF4				0.648
AF5				0.607
AF3				0.581
AF7				0.506
AM2				0.496
AT5		0.408		0.492
AT6		0.394		0.419
AF6				0.393

Source: Entrepreneurship Survey Data, 2019

Extraction Method: Principal Component Analysis. Rotation method: varimax with Kaiser normalization. a. Rotation converged in 6 iterations.

Name of Factors and Variables

The results of factor analysis are shown in Tables (4.19), (4.20), (4.21) and (4.22).

Table (4.19) Support & Network Pillar Factor

Variable	Questions of Variables	Rotated component values
GS4	You participated in Business Associations and Industry Working Groups to influence government policy.	.805
GS3	Tax laws are not an impediment to the development of business.	.777
GS2	Businesses like mine have access to the needed energy sources at reasonable cost.	.760
GS1	Businesses like mine have access to the Communications at reasonable cost.	.759
GS5	The process for registering a business is clear and easy.	.743
EC8	Another company or entrepreneur in Myanmar greatly inspired you to start your company.	.672
EC6	It is more difficult for a woman than a man to start and grow an entrepreneurial business.	.633
HR4	The difficulties or costs of laying off employees has dissuaded me from hiring new personnel.	.620
EC7	My family members are supportive of my entrepreneurial ventures.	.618
GS6	National law protects business intellectual property from theft inside the country.	.606
HR5	The professional skills of the fresh graduates are ready to be in the workforce.	.563
AT3	Cutting edge technologies over the world can be updated with your own effort.	.515
AF1	Entrepreneurs usually finance the starting of the business from external sources.	.495
AM8	You believe that your country's existing distribution system could help you to reach more than 50% of the population.	.454
AM6	Government Tenders and Projects are Transparent and Equal.	.354

Source: Entrepreneurship Survey Data, 2019

According to Table (4.19), the first-factor identifies 15 variables which were related to government policy, support & network (6 variables), entrepreneurship culture (3 variables), human resources (2 variables), access to market (2 variables), access to technology (1 variable) and access to finance (1 variable). The majority of these variables are responding each other. Therefore, this factor can be entitled as "Support & Network Pillar".

Table (4.20) Human and Culture Pillar Factor

AT8	You are willing to invest major portion of your capital for buying technical devices.	.690
HR3	The level of mandated non-salary benefits and allowances are a significant obstacle to my hiring new employees	.688
HR7	Training cost for the capacity development of the employees is considerably high for an entrepreneur	.676
HR1	Businesses like mine can readily hire workers with the desired knowledge, skills, and abilities	.670
EC1	Entrepreneurs like me have access to advisors and mentors who can provide helpful guidance	.645
AM1	Innovation can make your business highly competitive.	.636
EC2	Citizens of Myanmar in general have high regard for entrepreneurship and risk-taking	.635
AM3	It is easy to find the market/service for your business locally.	.615
AT7	You prefer to use update technology to boost up your product or service.	.604
HR6	Myanmar's education system should be more focus on vocational trainings.	.540
EC3	You have been part of any business or entrepreneurship training before or after starting your business.	.534
AT4	It is not expensive to acquire technical input from the outsourcing.	.531
HR8	Efficiency and Effectiveness of your company's Human resources is satisfactory compared to the hiring cost for them.	.446
EC4	You received support from a government program or from an international donor program (either financial or non- financial) during the past three years.	.421
AM5	You have been hiring Professionals for Marketing for your product/service apart from your own intuition.	.331

Source: Entrepreneurship Survey Data, 2019

According to Table (4.20), the second-factor identifies with 15 variables that reflected on access to technology (3 variables), human resources (5 variables), entrepreneurship culture (4 variables), and access to market (3 variables). Therefore, this factor shall be named as "Human and Culture Pillar".

Table (4.21) Market & Technology Pillar Factor

HR2	I find it easy to retain employees after hiring and training them.	.690
AM4	It is easy to compete in the market your product/service with International Brands.	.611
AF8	You believe that your business will be growing faster if you get Non-collateral loans with low interest rate.	.597
AM7	You are able to spend Enough Marketing Budgets to draw attention of your potential customers.	.505
AT2	Technical knowhow can be easily accessible for your business.	.484
AF2	You financed working capital (daily financing needs) from own savings, or from family and relatives.	.350
GS8	If you have a mentor that Government or an NGO arrange for you, your business will be more successful.	.332

Source: Entrepreneurship Survey Data, 2019

According to Table (4.21), the third-factor identifies with seven variables. This factor was found out in two different sectors that reflected on human resource (1 variable), access to market (2 variables), access to finance (2 variables), access to technology (1 variable), government policy and support network (1 variable). Hence, this factor can be nominated as “Market and Technology Pillar”.

Table (4.22) Financial Pillar Factor

AF4	You can EASILY find an investor or venture capital for your business.	.648
AF5	Banking regulations for Loan is accessible for your business in every stage.	.607
AF3	You have gotten growth capital to expand operations by borrowing from Banks.	.581
AF7	Monetary grants or loans offered by the INGOs or NPOs are relevant for your business.	.506
AM2	Businesses like mine have access to the Transportation and logistics networks at reasonable cost.	.496
AT5	Government supports you to upgrade or create your business.	.492
AT6	You have acquired the technical support of an NGO or NPO or other international trade organizations for the advancement of your business.	.419
AF6	Bank interest rates for Loan are reasonable.	.393

Source: Entrepreneurship Survey Data, 2019

According to Table (4.22), the fourth-factor identifies with 8 variables. This factor was included access to finance (5 variables), access to technology (2 variables) and access to market (1 variable). Therefore, this factor can be named as “Financial Pillar”.

Table (4.23) Factors Affecting among Entrepreneurs in Myanmar

Variables	Support & Network Pillar Factor	Human and Culture Pillar Factor	Market & Technology Pillar Factor	Financial Pillar Factor
GS4	0.805			
GS3	0.777			
GS2	0.76			
GS1	0.759			
GS5	0.743			
EC8	0.672			
EC6	0.633			
HR4	0.62			
EC7	0.618			
GS6	0.606			
HR5	0.563			
AT3	0.515			
AF1	0.495			
AM8	0.454			
AM6	0.354			
AT8		0.69		
HR3		0.688		
HR7		0.676		
HR1		0.67		
EC1		0.645		
AM1		0.636		
EC2		0.635		
AM3		0.615		
AT7		0.604		
HR6		0.54		
EC3		0.534		
AT4		0.531		
HR8		0.446		
EC4		0.421		
AM5		0.331		
HR2			0.69	
AM4			0.611	
AF8			0.597	
AM7			0.505	
AT2			0.484	
AF2			0.35	
GS8			0.332	
AF4				0.648
AF5				0.607
AF3				0.581
AF7				0.506
AM2				0.496
AT5				0.492
AT6				0.419
AF6				0.393

According to the results in Table (4.2), 48 variables and 4 main factors are found related to impacts on Entrepreneurship Ecosystem in Myanmar. Support and Network Pillar, Human and Culture Pillar, Market and Technology Pillar, and Financial Pillar are main factors to build up Myanmar Entrepreneurship Ecosystem. The pillars combine into a unified, and systematic ecosystem. These pillars should be viewed neither as being implemented sequentially nor as any one being more important than any other. These pillars not independent of each other improvements in one pillar will often lead to improvements in others, while weaknesses in one pillar can make conditions more difficult in other pillars.

CHAPTER V
CONCLUSION

Factor analysis was conducted in primary data collection from the members of Myanmar Young Entrepreneurs Association. This chapter is described the key findings, suggestions and further studies.

5.1 Key Findings

This survey was implemented to identify the factors affecting the Myanmar entrepreneurship ecosystem. In this study, information was collected from 260 entrepreneurs. The data collection was completed in 2019. Its goal was to identify the demographic and socioeconomic characteristics of Myanmar entrepreneurs, as well as the main key factors influencing the impact of Myanmar's entrepreneurship ecosystem. Most entrepreneurs are educated to have a bachelor's degree or above. Because only 1% of entrepreneurs went out of business, technical and vocational schools should place a greater emphasis on entrepreneurship.

In this study, most of the entrepreneurs are males with the age groups of 25–29 years and 30-34 years. Most entrepreneurs lived in the Yangon Region and worked in agribusiness and retail trade. The survey shows that a geographic balance of 48% of entrepreneurs from different regions across the country exists, while the Yangon region has only 52%. Regarding the size of employees, most businesses have fewer than 10 employees.

Although wholesale trade and retail trade were fairly represented, there were firms from agriculture, manufacturing, construction, ICT, real estate, education, health care, tourism and others. Concerning foreign investment, most entrepreneurs are not doing exports of their products. Regarding working experience, the majority of entrepreneurs did not have work experience before they ran their own businesses. In addition, most businesses have company registration at the Directorate of Investment and Company Administration (DICA).

The result shows that most of the Myanmar entrepreneurs are SME business runners because only a few of the businesses can employ more than 200 headcounts, which can be so-called medium-sized businesses. Most firms have less than 15 people working for them.

Nearly all the entrepreneurs interviewed were not affiliated with a foreign company. Entrepreneurs can still be affiliated with international companies as franchisees, subsidiaries with equity interest, or joint ventures. They might also be a licensed distributor. Or they can theoretically produce it under license. But only 8% have any such affiliation with a foreign company.

The majority of entrepreneurs (82%) were serving the domestic market, and only 17% were directly exporting. Most entrepreneurs have no experience working for a foreign company, but some of them still have this exposure. Working for MNCs can be a good reason to become an entrepreneur by getting skills, managerial experience, and exposure to best practices. Nevertheless, this was only in about one-third of the cases, whilst the other 64% had no such experience.

Nearly all businesses were legally licensed and registered either by DICA, the municipality, or with a shop license, but 4% said they were not registered at all. This tends to confirm that entrepreneurs tend to be officially registered and to be paying taxes. Nearly 90% of entrepreneurs find personal or family savings are "essential" or "very important" to starting their business. While personal and family savings were by far the most important source of funds, many entrepreneurs found financing from relatives and banks to be "very important."

Entrepreneurs view their competitiveness as being based on their product, technological innovation, and organizational culture. More than 60% of entrepreneurs view technology innovation and the company’s business culture as "essential" or "very important" to its competitiveness.

However, about one-third of firms had difficulties hiring workers with the desired knowledge, skills, and abilities. They also report difficulties in retaining employees who are skilled or have been trained by their firm. Roughly one third of respondents did not report problems in these areas, suggesting that this problem is serious for many firms, but others have found ways to adapt.

When asked about the government's recent policies and how they view them, entrepreneurs focus on ensuring adequate financing for entrepreneurs. Others mentioned improving the ability to start a company and encouraging training related to entrepreneurship. But many were unaware of any recent government policies.

The government does not adequately communicate its entrepreneurship-related policies. Twenty seven percent of entrepreneurs feel the government communicates its support for entrepreneurs very ineffectively, while only 5% feel it communicates very

effectively. This means that a major recommendation for government policy is to not only formulate and implement such a policy but to communicate it well and clearly. At the moment, it is not doing a good job in communicating entrepreneurship policies, which may be because the government was still quite new at the time of this survey.

Entrepreneurs report a generally positive culture of support for their activities. More than half of entrepreneurs agree or strongly agree that citizens generally have a high regard for entrepreneurship and risk taking. This is somewhat surprising in a traditional culture where bankruptcy laws are still difficult and where entrepreneurship has emerged only in the last generation or so.

Nearly half feel that it is more difficult for women to start and grow a business. It would be interesting in the next survey to see if there was any difference in perception among male and female entrepreneurs. Only 10% of entrepreneurs received any kind of support from a government program.

Regarding the results of factor analysis, four main factors such as Support & Network Pillar; Human Capital and Culture Pillar; Access to Market & Technology Pillar; and Financial Access Pillar are found to build up Myanmar's Entrepreneurship Ecosystem.

5.2 Suggestions

According to these findings, the four major influencing factors on the Myanmar entrepreneurial ecosystem are the Support and Network Pillar, Human and Culture Pillar, Market and Technology Pillar, and Financial Pillar.

Individual entrepreneurs may apply these identifying factors by strengthening their new ventures to make their entrepreneurial endeavors more successful and long-lasting.

Idea of having an Entrepreneurship dashboard also help the government track the national performance in generating entrepreneurial enterprises and assign action plans to its ministries. The dashboard may track key indicators for entrepreneurial activities and it could also include specific performance milestones for each ministry with respect to entrepreneurship performance. The indicators will alert the attention of senior government officials and the entrepreneurial associations to focus on problem areas while enabling coordination across ministries.

5.3 Further Studies

According to the experience of having this study, it is considerably noticed that the references and sources of Entrepreneurship in Myanmar are very scarce. It is strongly suggested to conduct more entrepreneurial surveys in both academically and professionally. Government shall publish an annual report on the national level of Myanmar entrepreneurship. On the other hand, entrepreneurial associations should take a lead to conduct an annual entrepreneurship survey which will enable to provide response on how policies are being implemented and to assess the overall environment for entrepreneurial growth. The results of the annual survey can be collaborated to produce national level entrepreneurship report that benchmarks progress on entrepreneurship development.

This survey enables to cover only the factor analysis of the key strategic pillars which are perceived as important domains in Myanmar entrepreneurship ecosystem by the members of Myanmar Young Entrepreneurs Association in 2019. While doing this survey, the political and socioeconomical changes in Myanmar comprises which will considerably make a big impact to Myanmar entrepreneurship ecosystem. Therefore, it is strongly recommended to take a quick action on studying updated survey to understand the current scenario of entrepreneurship panorama in Myanmar after COVID-19 pandemic in 2020 and political changes in 2021.

In addition to multiple regression analysis are applied to identify the influencing factors in Myanmar Entrepreneurship Ecosystem.

REFERENCES

1. Aarstad, J., Haugland S., & Greve, A. (2010). Performance Spillover Effects in Entrepreneurial Networks: Assessing a Dyadic Theory of Social Capital. *Entrepreneurship Theory and Practice*, 34(5), 1003-1019.
2. Acs, Z. J., Braunerhjelm, P., Audretsch, D. B., & Carlsson, B. (2009). The Knowledge Spillover Theory of Entrepreneurship. *Small Business Economics*, 32(1), 15-30.
3. Acs, Z., & Audretsch, D. (1990). *Innovation and Small Firms*. Cambridge, MA: MIT Press.
4. Aldrich, H. & Zimmer, C. (1986). *Entrepreneurship through Social Networks*. In D. Sexton & R. Smiler (eds.), *The Art and Science of Entrepreneurship*, New York: Ballinger.
5. Almeida, P. & Kogut, B. (1999). Localization of Knowledge and the Mobility of Engineers in Regional Networks. *Management Science*, 45(7), 905-917.
6. Arrow, K. (1962). *Economic Welfare and the Allocation of Resources for Invention.* In R. Nelson (ed.), *The Rate and Direction of Inventive Activity*, Princeton: Princeton University Press.
7. Asian Development Bank (2016). Inclusive and Sustainable Growth Assessment. Country Partnership Strategy: Myanmar 2017–2021.
8. Audretsch, D. (1995). *Innovation and Industry Evolution.* Cambridge, MA: MIT Press.
9. Directorate of Investment and Company Administration (DICA, 2018). *Cost of Doing Business in Myanmar: Survey Report 2018*, Ministry of Planning and Finance.
10. Hayter, C. S. (2013). Conceptualizing Knowledge-based Entrepreneurship Networks: Perspectives from the Literature, *Small Business Economics*, 41 (4), 899-911.
11. Ministry of Planning and Finance (2018), Myanmar Sustainable Development Plan 2018-2030.
12. Raymond, K. W. N. (2015). *An Empirical Analysis of the Singapore Entrepreneurship Ecosystem: A Case Study For BRIC Economies to Ponder.* Verlag: Springer India.

13. Entrepreneurship Ecosystem Project of Babson College http://www.babson.edu/executive-education/custom-programs/entrepreneurship/Pages/entrepreneurship-ecosystem.aspx
14. Myanmar Sustainable Development Plan 2018-2030 published by Ministry of Planning and Finance

APPENDIX

Questionnaire Form

I am Aye Myat Myat Thu who is studying the Master of Applied Statistics (MAS) programme of Yangon University of Economics. I would like to get information from the questionnaires which will be used only for thesis purpose. Please give me 15 minutes only to answer all. Data collected for the purpose of studying from individual respondents, this will be kept as confidential. Assuring respondents to be anonymous will allow you to put your privacy concerns at ease and answer all questions truthfully. Thank you very much for your participation.

Please Circle (O) for the appropriate answer.

General Information

1. Gender

- Male
- Female

2. Age

- 20~24
- 25~29
- 30~34
- 35~39
- 40~44
- 45~55
- Over 55

3. Educational Level

- Primary Education
- Secondary Education
- Technical College
- Bachelor Degree
- Master Degree
- PhD or MD

4. Which State or Division you live in?

---

5. Which type of your business you are in?

- Livestock, Fisheries
- Construction
- Agri
- Manufacturing
- ICT
- Wholesale Trade
- Retail Trade
- Real Estate
- Tourism
- Tech Services
- Health
- Education
- Other

6. How many permanent employees working in your business?

- 1-10
- 11-20
- 21-30
- 31-40
- 41-50
- 51-60
- 61-70
- 71-80
- 81-90
- 91-100
- ≥100
- ≥150
- ≥200

7. Is there any foreign investment or Joint Venture or Partnership with a foreign company?

- Yes
- No

8. Are you exporting your product or service?

- Yes
- No

9. Do you have any experience working in a Foreign Company before you started your business?

- Worked in Local only
- Worked in Abroad
- Worked in both local and abroad
- No experience

10. Do you register your business officially in any of the following type of registration?

- With DICA
- Locally (municipal)
- Shop license
- Not registered as a company
- Other (please specify)

Part 2: Understanding the Six Strategic Pillars of Ecosystem

11. How do you think following types of financial sources of investment ranking when you started your own business? Please rank to the followings from 1 to 5 ranking:

    1=essential, 2 = very important, 3 = significant, 4 = insignificant, 5 = no opinion

- Personal or family savings
- Finance from relatives/friends
- Borrowing from banks
- Borrowing from non-banks
- Equity Investment from non-Friend or Family
- Equity Investment from others

12. Which of the following make your business to be highly competitiveness the most?

    Please rank to the followings from 1 to 5 ranking:

    1=essential, 2 = very important, 3 = significant, 4 = insignificant, 5 = no opinion

- Product/service innovation
- Technology innovation
- Your business culture
- Efficient processes or logistics
- Unique market niche
- Aggressive marketing and selling
- Distribution innovation
- Special agreements with suppliers or distributors

13. Please select ONE most important criterion out of the following criteria when you hire an employee.

- Skills
- Education Level
- Experience
- Personal Characteristics
- Others

14. Which of the following do you think is the most important support from the Government you expect? Please select ONE of the following.

- Entrepreneurship training
- Supporting entrepreneurship incubators and accelerators
- Assuring availability of funding for entrepreneurs
- Creating or supporting worker training programs
- Helping entrepreneurs start a business
- Unsure what the government has done to support entrepreneurs
- Government has not had a policy to support entrepreneurs

15. You received encouragement and recognition from your family, relatives and friends as an entrepreneur.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

16. Women entrepreneurs are well recognized in social environment in Myanmar.

- Yes
- No

17. Have you ever accessed the support and network program of Government or NGO or Entrepreneurship Actors in terms of Training, Mentorship, or networking event?.

- Yes
- No

18. Entrepreneurs usually finance the starting of the business from external sources. (AF1)

- Strongly agree
- Agree
- Neutral
- Disagree

- Strongly disagree

19. You financed working capital (daily financing needs) from own savings, or from family and relatives. (AF2)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

20. You have gotten growth capital to expand operations by borrowing from Banks. (AF3)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

21. You can EASILY find an investor or venture capital for your business. (AF4)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

22. Banking regulations for Loan is accessible for your business in every stage. (AF5)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

23. Bank interest rates for Loan are reasonable. (AF6)

- Strongly agree
- Agree
- Neutral
- Disagree

- Strongly disagree

24. Monetary grants or loans offered by the INGOs or NPOs are relevant for your business. (AF7)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

25. You believe that your business will be growing faster if you get Non-collateral loans with low interest rate. (AF8)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

26. Innovation can make your business highly competitive. (AM1)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

27. Businesses like mine have access to the Transportation and logistics networks at reasonable cost. (AM2)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

28. It is easy to find the market/service for your business locally. (AM3)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

29. It is easy to compete in the market your product/service with International Brands. (AM4)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

30. You have been hiring Professionals for Marketing for your product/service apart from your own intuition. (AM5)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

31. Government Tenders and Projects are Transparent and Equal. (AM6)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

32. You are able to spend Enough Marketing Budgets to draw attention of your potential customers. (AM7)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

33. You believe that your country's existing distribution system could help you to reach more than 50% of the population. (AM8)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

34. You are using advanced technology which is required for your product or service to compete your business with others. (AT1)
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

35. Technical knowhow can be easily accessible for your business. (AT2)
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

36. Cutting edge technologies over the world can be updated with your own effort. (AT3)
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

37. It is not expensive to acquire technical input from the outsourcing. (AT4)
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

38. Government supports you to upgrade or create your business. (AT5)
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

39. You have acquired the technical support of an NGO or NPO or other international trade organizations for the advancement of your business. (AT6)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

40. You prefer to use update technology to boost up your product or service. (AT7)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

41. You are willing to invest major portion of your capital for buying technical devices. (AT8)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

42. Businesses like mine can readily hire workers with the desired knowledge, skills, and abilities. (HR1)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

43. I find it easy to retain employees after hiring and training them. (HR2)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

44. The level of mandated non-salary benefits and allowances are a significant obstacle to my hiring new employees. (HR3)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

45. The difficulties or costs of laying off employees has dissuaded me from hiring new personnel. (HR4)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

46. The professional skills of the fresh graduates are ready to be in the workforce. (HR5)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

47. Myanmar's education system should be more focus on vocational trainings. (HR6)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

48. Training cost for the capacity development of the employees is considerably high for an entrepreneur. (HR7)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

42. Efficiency and Effectiveness of your company's Human resources is satisfactory compared to the hiring cost for them. (HR8)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

43. Entrepreneurs like me have access to advisors and mentors who can provide helpful guidance. (EC1)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

44. Citizens of Myanmar in general have high regard for entrepreneurship and risk-taking. (EC2)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

45. You have been part of any business or entrepreneurship training before or after starting your business. (EC3)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

46. You received support from a government program or from an international donor program (either financial or non- financial) during the past three years. (EC4)

- Strongly agree
- Agree

- Neutral
- Disagree
- Strongly disagree

47. You would be more successful If you received support from an international donor program in the past. (EC5)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

48. It is more difficult for a woman than a man to start and grow an entrepreneurial business. (EC6)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

49. My family members are supportive of my entrepreneurial ventures. (EC7)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

50. Another company or entrepreneur in Myanmar greatly inspired you to start your company. (EC8)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

51. Businesses like mine have access to the Communications at reasonable cost. (GS1)

- Strongly agree

- Agree
- Neutral
- Disagree
- Strongly disagree

52. Businesses like mine have access to the needed energy sources at reasonable cost. (GS2)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

53. Tax laws are not an impediment to the development of business. (GS3)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

54. You participated in Business Associations and Industry Working Groups to influence government policy. (GS4)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

55. The process for registering a business is clear and easy. (GS5)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

56. National law protects business intellectual property from theft inside the country. (GS6)

- Strongly agree

- Agree
- Neutral
- Disagree
- Strongly disagree

57. The existing government shows more interest in business and facilitates Ease of doing business compared to the ex-governments. (GS7)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

58. If you have a mentor that Government or an NGO arrange for you, your business will be more successful. (GS8)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree